



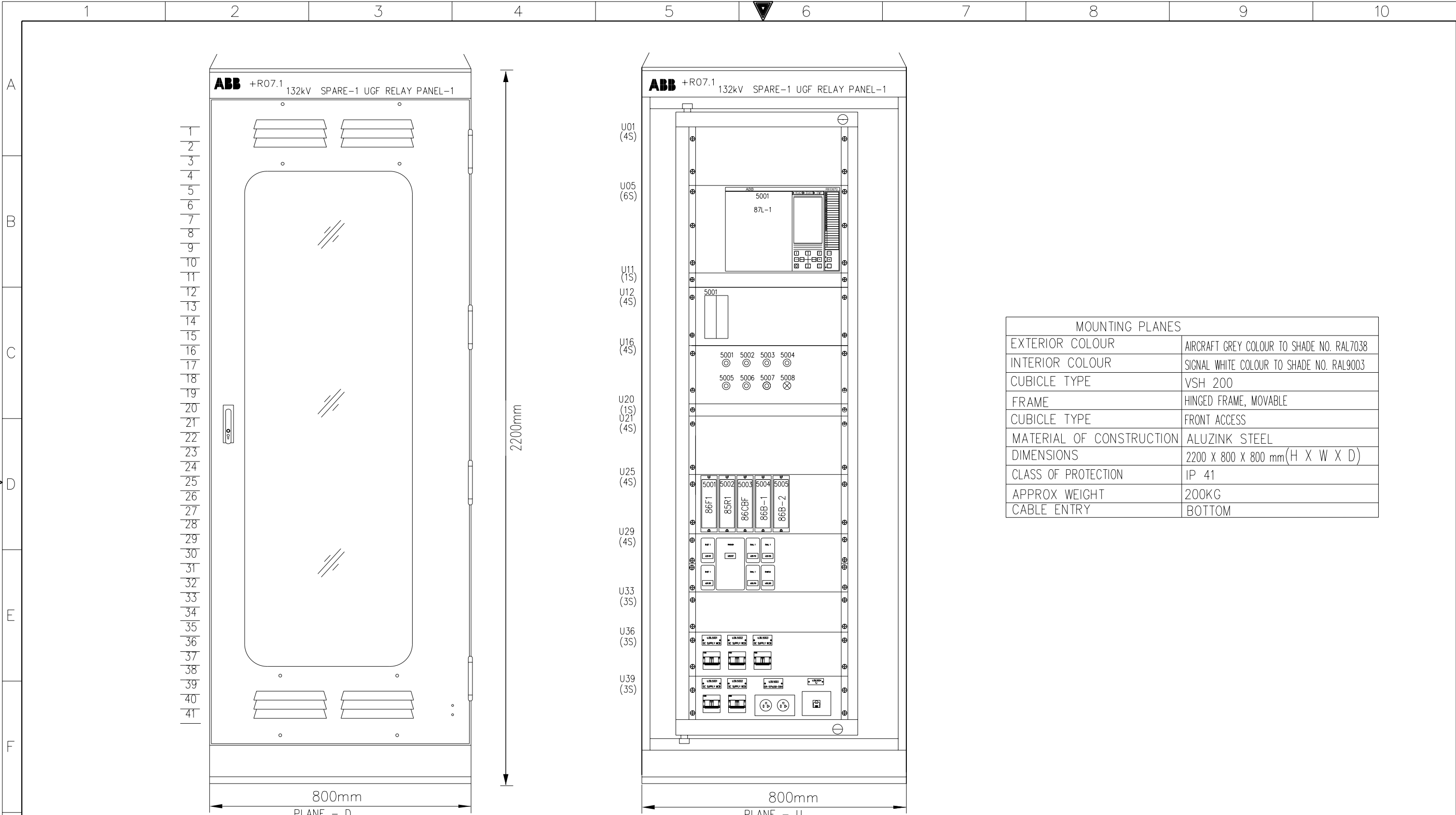


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A			POWER SYSTEMS NETWORK MANAGEMENT PROTECTION AND SUBSTATION AUTOMATION SYSTEMS WBS NO: S-13656					ABB AUTOMATION COMPANY LTD., 414, AL-KHARJ ROAD SECOND INDUSTRIAL CITY RIYADH-11383 K.S.A																																																														
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C	CONTRACTOR : ABB Contracting Company																																																																					
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D	PROJECT : CONSTRUCTION OF NEW 132/13.8kV SS 8709 IN AL-KHARJ CITY																																																																					
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E	CONTRACT NO. : 11131113/00																																																																					
	TITLE : Assembly Drawing – +R07.1 [Under Ground Feeder]																																																																					
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NG/D2-D (2012/01)  
DMS VECTOR NGD200



AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656

Ø1	13 49	FACTORY ASBUILT	DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>
		FOR APPROVAL	
	13 04		
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>

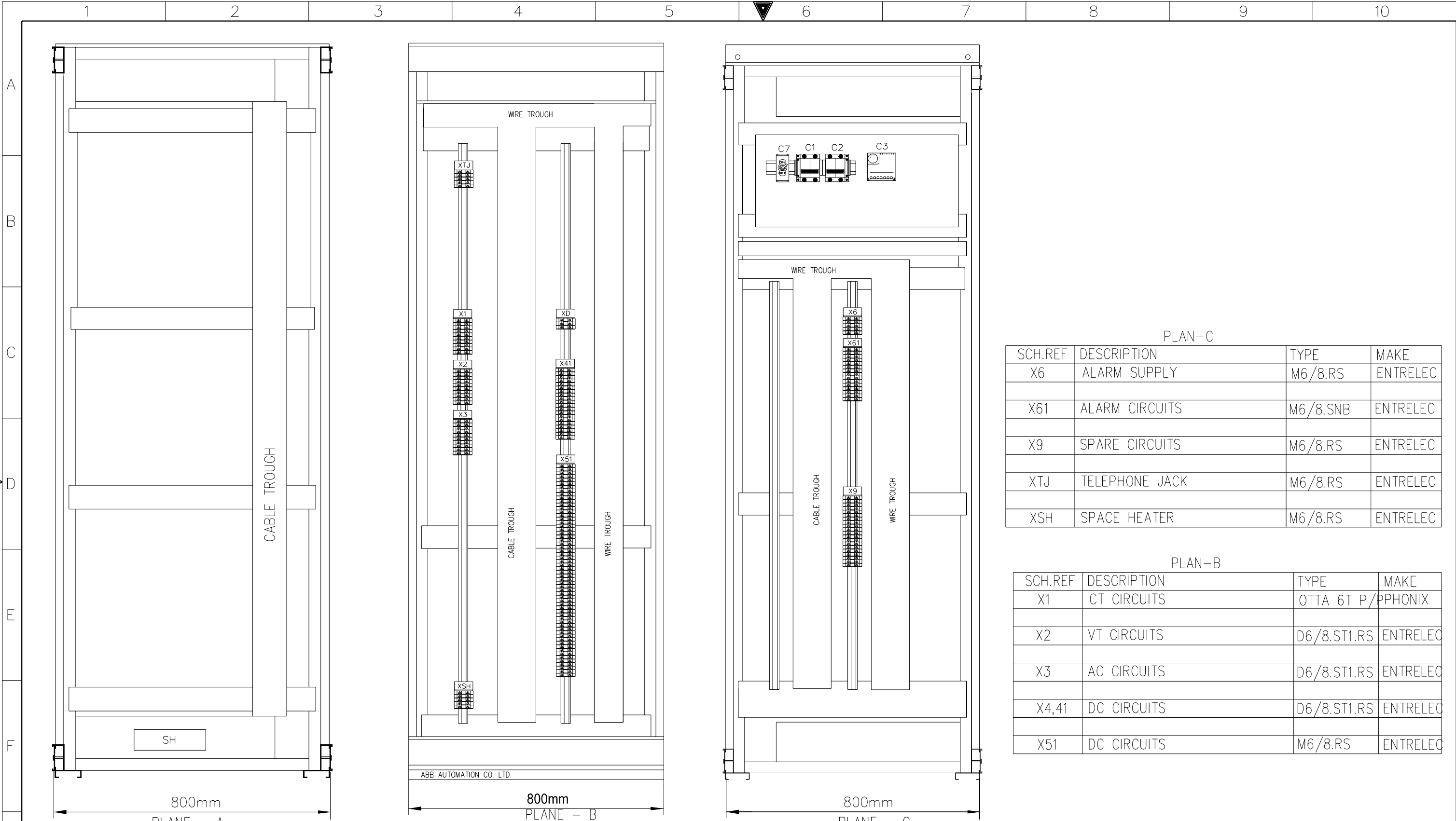
ASSEMBLY DRAWING

132kV UGF-SPARE-1 RELAY PANEL-1+R07.1

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء		نقل الكهرباء		National Grid sa	
INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
-	C421	CD-322923	SHT	CONT.	Ø1
			G01	G02	




PLAN-C			
SCH.REF	DESCRIPTION	TYPE	MAKE
X6	ALARM SUPPLY	M6/8.RS	ENTRELEC
X61	ALARM CIRCUITS	M6/8.SNB	ENTRELEC
X9	SPARE CIRCUITS	M6/8.RS	ENTRELEC
XTJ	TELEPHONE JACK	M6/8.RS	ENTRELEC
XSH	SPACE HEATER	M6/8.RS	ENTRELEC

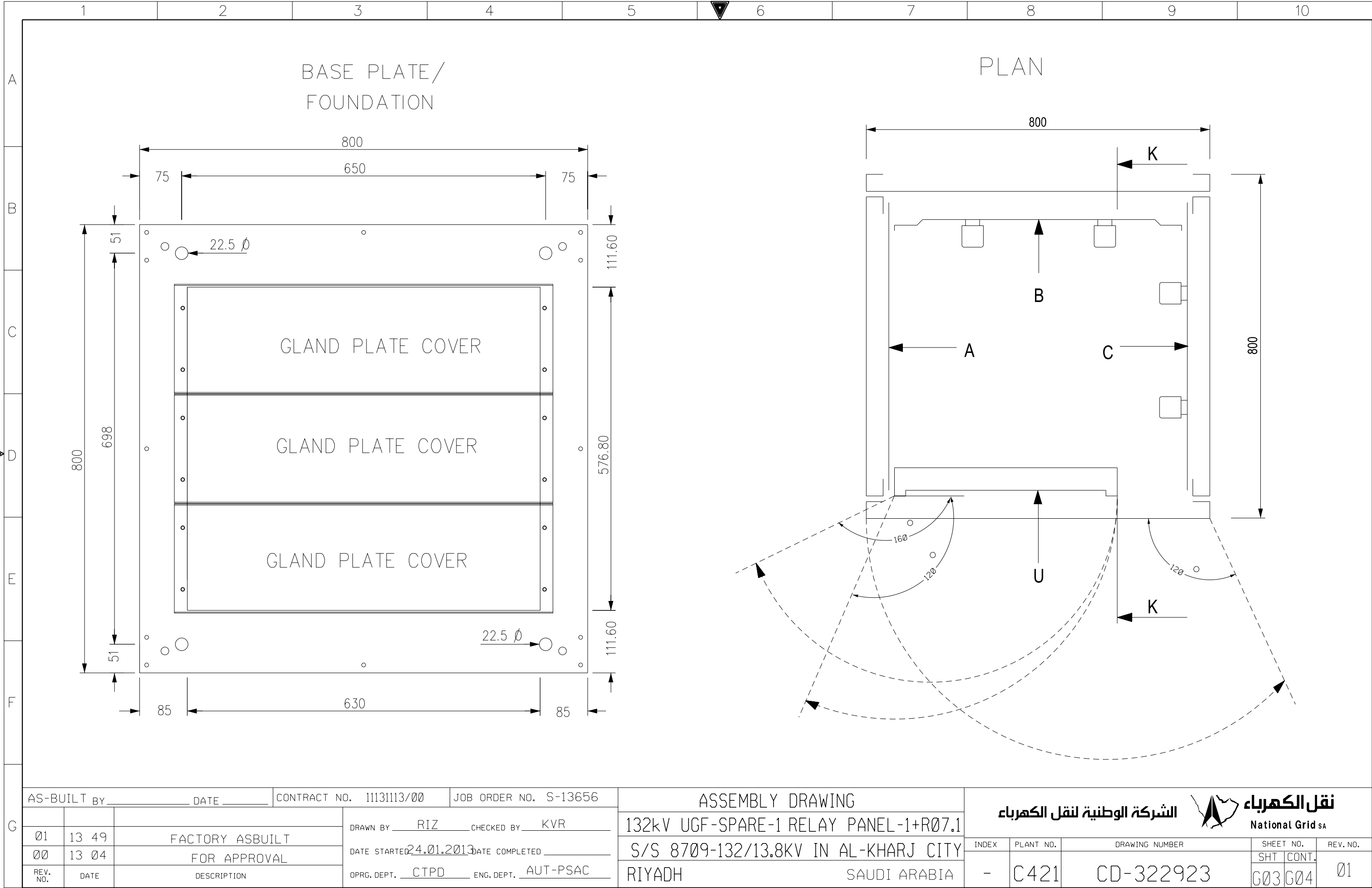
PLAN-B			
SCH.REF	DESCRIPTION	TYPE	MAKE
X1	CT CIRCUITS	OTTA 6T P/	PPHONIX
X2	VT CIRCUITS	D6/8.ST1.RS	ENTRELEC
X3	AC CIRCUITS	D6/8.ST1.RS	ENTRELEC
X4,41	DC CIRCUITS	D6/8.ST1.RS	ENTRELEC
X51	DC CIRCUITS	M6/8.RS	ENTRELEC

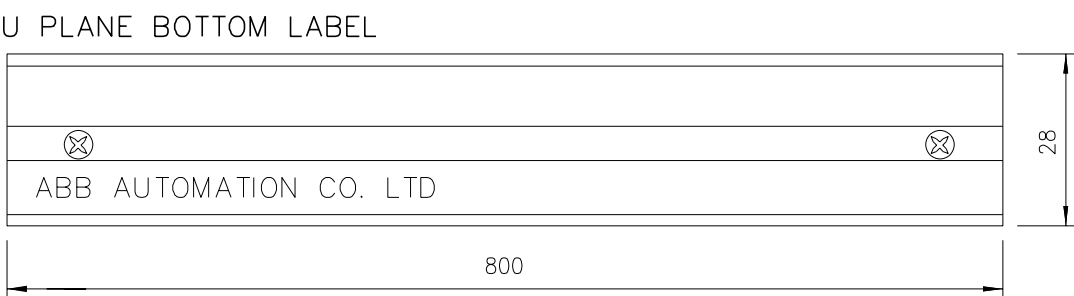
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ASSEMBLY DRAWING					
132kV UGF-SPARE-1 RELAY PANEL-1+R07.1					
S/S 8709-132/13.8KV IN AL-KHARJ CITY					
RIYADH SAUDI ARABIA					

الشركة الوطنية لنقل الكهرباء				نقل الكهرباء		
				National Grid sa		
INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
-	C421	CD-322923		SHT CONT.		01
				G02 G03		





MANUFACTURING LABEL



ABB Automation Co.Ltd.

PROJECT : National Grid SA  
S/S 8709

ORDER REFERENCE : 2875 RF S13656

YEAR OF MANUFACTURE: 2013

PANEL NO. : +R07.1

DRAWING NO. : S13656-CD-323925

MADE IN THE KINGDOM OF SAUDI ARABIA

AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656	
01	13 49	FACTORY ASBUILT		DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>	
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REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>	

ASSEMBLY DRAWING

132kV UGF-SPARE-1 RELAY PANEL-1+R07.1

S/S 8709-132/13.8KV IN AL-KHARJ CITY
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RIYADH

SAUDI ARABIA

**الشركة الوطنية لنقل الكهرباء**



**نقل الكهرباء**  
National Grid SA





INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
-	C421	CD-322923	SHT	CONT.	01
			G04	L00	

NG/D2-D (2012/01)

DMS

VECTOR

NGD200

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NG/D2-D (2012/01)  
NGD200


DMS VECTOR



	1	2	3	4	5	6	7	8	9	10	
A	SR. NO.	GA. REF.	SCH. REF.	D E S C R I P T I O N		SHT.	QTY.	TYPE	MAKE	ORDERING INFORMATION	COUNTRY OF ORIGIN
	8	U25.5001	86F1	HIGH BURDEN TYPE HAND/ELECTRICAL RESET TRIP RELAY		232	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK
				AUXILIARY VOLTAGE : 110 - 125V DC							
				OUTPUT CONTACTS : 8NO+2NC							
B				OPERATION INDICATOR : HAND RESET FLAG							
	9	U25.5002	85R1	HIGH BURDEN TYPE SELF RESET TRIP RELAY		233	1	MVAJ101	ALSTOM	MVAJ101RA0800A	UK
				AUXILIARY VOLTAGE : 110 - 125V DC							
				OUTPUT CONTACTS : 10 NO							
C				OPERATION INDICATOR : SELF RESET FLAG							
	10	U25.5003	86CBF	HIGH BURDEN TYPE HAND/ELECTRICAL RESET TRIP RELAY		276	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK
				AUXILIARY VOLTAGE : 110 - 125V DC							
				OUTPUT CONTACTS : 8NO+2NC							
D				OPERATION INDICATOR : HAND RESET FLAG							
	11	U25.5004	86B-1	HIGH BURDEN TYPE HAND/ELECTRICAL RESET TRIP RELAY		276	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK
				AUXILIARY VOLTAGE : 110 - 125V DC							
				OUTPUT CONTACTS : 8NO+2NC							
E				OPERATION INDICATOR : HAND RESET FLAG							
	12	U25.5005	86B-2	HIGH BURDEN TYPE HAND/ELECTRICAL RESET TRIP RELAY		277	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK
				AUXILIARY VOLTAGE : 110 - 125V DC							
				OUTPUT CONTACTS : 8NO+2NC							
F				OPERATION INDICATOR : HAND RESET FLAG							
G											
AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		الشركة الوطنية لنقل الكهرباء National Grid sa			
	13 49			DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-1 RELAY PANEL-1+R07.1					
00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY					
REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		INDEX -	PLANT NO. C421	DRAWING NUMBER CD-322923	SHEET NO. L02 L03
										REV. NO. 01	



	1	2	3	4	5	6	7	8	9	10				
A	SR. NO.	GA. REF.	SCH. REF.	D E S C R I P T I O N		SHT.	QTY.	TYPE	MAKE	ORDERING INFORMATION	COUNTRY OF ORIGIN			
	13	U29.101	74R1/74IT1	DUAL COIL RELAY FOR R1 DC /74IT1 DC		232,233	2	RXSF 1	ABB	RK 271 019-AN	SWEDEN			
		U29.301	74RS/74IS	AUXILIARY VOLTAGE : 110-125VDC		277								
				CONTACT DATA : 1NO + 2NC PER COIL										
B	14	U29.107	K01M	BISTABLE RELAY		232	1	RXMVB 4	ABB	RK 251 401-AP	SWEDEN			
				AUXILIARY VOLTAGE : 125V DC										
				CONTACT DATA : 7NC+7NO										
	15	U29.119	TMR/86F1	DELAY FOR PICKUP RELAY		232	3	RXKL1	ABB	1MR 000 066-AB	SWEDEN			
C		U29.319	TMR/86B-1	AUXILIARY VOLTAGE : 24-250V DC		276								
		U29.125	TMR/86B-2	CONTACT DATA : 2C/O		277								
	16	U29.325	R1	RESISTOR UNIT FOR TCS		291	1	RXTMA1	ABB	RK 711 008-AF	SWEDEN			
				RESISTOR WATT : 6.8 K OHMS										
D														
E														
F														
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>National Grid sa</div>					
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A	SR. NO.	GA REF.	SCH. REF.	D E S C R I P T I O N		SHEET NO.	QTY.	TYPE	MAKE	ORDERING INFORMATION	COUNTRY OF ORIGIN		
	17			MCB 2 POLE 6A, FOR DC SUPPLY WITH 2NC AUXILIARY CONTACT		216	5	S282UC-K6 S2-H02	ABB	GH S282 0164 R0317 GH S270 1916 R0003	GERMANY		
		U39.5001	Q1	R1± SUPPLY									
		U39.5002	Q2	IT1± SUPPLY									
		U36.5001	Q3	RS± SUPPLY									
		U36.5002	Q4	IS± SUPPLY									
B		U36.5003	Q5	TC1± SUPPLY									
	18	U39.5003	C01	CONVENIENCE OUTLET 10A, 127V AC		211	1	USM45 & USMS45	LEGRAND	74140 & 74180	FRANCE		
			C02	CONVENIENCE OUTLET 10A, 220V AC									
	19		C1,C2	MINIATURE CIRCUIT BREAKER, 2 POLE, 10A FOR CONVENIENCE OUTLET WITH AUXILIARY SWITCH, 1NO + 1NC CONTACTS		211	2	S202P-K10 S2C-H11L	ABB	2CDS 252 001 R0427 2CDS 270 1917 R0001	SWEDEN		
	20		C3	THERMOSTAT FOR SPACE HEATER, 5-60° C		211	1	SK 3110	RITTAL	SK 3110			
	21	U39.5004	TJ	TELEPHONE JACK 1GANG 4WIRE		211	1	EDF410	EDISON	EDF410	THIWAN		
C	22		C7	ON/OFF SWITCH FOR SPACE HEATER		211	1	M2SS1-10B MCBH-10	ABB	1SFA 611 200 R1006 1SFA 611 605 R1101	SWEDEN		
	23		DS	DOOR SWITCH FOR CONTROL OF CUBICLE INTERNAL ILLUMINATION LAMP		211	1	LS30P	ABB	1SBV 010213 R1202	SWEDEN		
	24		IL	INTERNAL ILLUMINATION CUBICLE LAMP SUITABLE FOR 127V AC, 60Hz SUPPLY, 20W		211	1	T-4	SUNON	SP-20W			
	25		SH	SPACE HEATER, 150W, 120V, 60Hz		211	1	RICA	GRUPPO	1FZEK 006 C001	ITALY		
D													
E													
F													
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		<div>الشركة الوطنية لنقل الكهرباء</div> <div> نقل الكهرباء National Grid sa</div>				
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	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		-	C421	CD-322923	L04L05	01

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A	<table><thead><tr><th>SR. NO.</th><th>ITEM DESIGNATION</th><th>D E S C R I P T I O N</th><th>SHEET.NO.</th><th>QTY.</th><th>TYPE</th><th>MAKE</th><th>ORDERING INFORMATION</th><th>COUNTRY OF ORIGIN</th></tr></thead><tbody><tr><td>23</td><td>X1</td><td>BOLT CONNECTING TERMINAL BLOCKS FOR DISCONNECTABLE CT CIRCUITS</td><td>701</td><td>10</td><td>OTTA 6T P/P</td><td>PHOENIX</td><td>0790462</td><td>GERMANY</td></tr><tr><td rowspan="4">B</td><td></td><td>X2</td><td>SPRING LOADED TERMINAL BLOCKS FOR DISCONNECTABLE VT CIRCUITS</td><td>701</td><td>10</td><td>D6/8.STI.RS</td><td>ENTRELEC</td><td>1SNA 115 831 R0400</td><td>FRANCE</td></tr><tr><td></td><td>X3</td><td>SPRING LOADED TERMINAL BLOCKS FOR DISCONNECTABLE AC CIRCUITS</td><td>701</td><td>10</td><td>D6/8.ST1.RS</td><td>ENTRELEC</td><td>1SNA 115 831 R0400</td><td>FRANCE</td></tr><tr><td></td><td>X41</td><td>SPRING LOADED TERMINAL BLOCK FOR DISCONNECTABLE DC CIRCUITS</td><td>701</td><td>30</td><td>D6/8.ST1.RS</td><td>ENTRELEC</td><td>1SNA 115 831 R0400</td><td>FRANCE</td></tr><tr><td></td><td>X51</td><td>SPRING LOADED TERMINAL BLOCK FOR DC PROTN. CIRCUITS</td><td>701</td><td>65</td><td>M6/8.RS</td><td>ENTRELEC</td><td>1SNA 115 688 R2500</td><td>FRANCE</td></tr><tr><td rowspan="4">C</td><td></td><td>X6</td><td>SPRING LOADED TERMINAL BLOCK FOR FOR COMMON ALARM</td><td>701</td><td>5</td><td>M6/8.RS</td><td>ENTRELEC</td><td>1SNA 115 688 R2500</td><td>FRANCE</td></tr><tr><td></td><td>X61</td><td>KNIFE TYPE TERMINAL BLOCKS FOR COMMON ALARM CIRCUITS</td><td>701</td><td>15</td><td>M6/8.SNB</td><td>ENTRELEC</td><td>1SNA 115 685 R1200</td><td>FRANCE</td></tr><tr><td></td><td>X9</td><td>SPRING LOADED TERMINAL BLOCKS FOR SPARE CIRCITS</td><td>701</td><td>20</td><td>M6/8.RS</td><td>ENTRELEC</td><td>1SNA 115 688 R2500</td><td>FRANCE</td></tr><tr><td></td><td>XD</td><td>TERMINAL BLOCKS WITH BLOCKING DIODE, Vrrm=1kV, If=3A AND SURGE TRAP, ENERGY ABSORPTION RATING 8J (10/1000mS)</td><td>276</td><td>3</td><td>N4/6.S IN5408 V150ZA1</td><td>ENTRELEC MEJDAF RS</td><td>11521310 02-049 239-270</td><td>FRANCE</td></tr><tr><td rowspan="4">D</td><td></td><td>XTJ</td><td>SPRING LOADED TERMINAL BLOCKS FOR TELEPHONE JACK</td><td>701</td><td>5</td><td>M6/8.RS</td><td>ENTRELEC</td><td>1SNA 115 688 R2500</td><td>FRANCE</td></tr><tr><td></td><td>XSH</td><td>SPRING LOADED TERMINAL BLOCKS FOR SPACE HEATER</td><td>701</td><td>3</td><td>M6/8.RS</td><td>ENTRELEC</td><td>1SNA 115 688 R2500</td><td>FRANCE</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td rowspan="4">E</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td rowspan="4">F</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>									SR. NO.	ITEM DESIGNATION	D E S C R I P T I O N	SHEET.NO.	QTY.	TYPE	MAKE	ORDERING INFORMATION	COUNTRY OF ORIGIN	23	X1	BOLT CONNECTING TERMINAL BLOCKS FOR DISCONNECTABLE CT CIRCUITS	701	10	OTTA 6T P/P	PHOENIX	0790462	GERMANY	B		X2	SPRING LOADED TERMINAL BLOCKS FOR DISCONNECTABLE VT CIRCUITS	701	10	D6/8.STI.RS	ENTRELEC	1SNA 115 831 R0400	FRANCE		X3	SPRING LOADED TERMINAL BLOCKS FOR DISCONNECTABLE AC CIRCUITS	701	10	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400	FRANCE		X41	SPRING LOADED TERMINAL BLOCK FOR DISCONNECTABLE DC CIRCUITS	701	30	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400	FRANCE		X51	SPRING LOADED TERMINAL BLOCK FOR DC PROTN. CIRCUITS	701	65	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE	C		X6	SPRING LOADED TERMINAL BLOCK FOR FOR COMMON ALARM	701	5	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE		X61	KNIFE TYPE TERMINAL BLOCKS FOR COMMON ALARM CIRCUITS	701	15	M6/8.SNB	ENTRELEC	1SNA 115 685 R1200	FRANCE		X9	SPRING LOADED TERMINAL BLOCKS FOR SPARE CIRCITS	701	20	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE		XD	TERMINAL BLOCKS WITH BLOCKING DIODE, Vrrm=1kV, If=3A AND SURGE TRAP, ENERGY ABSORPTION RATING 8J (10/1000mS)	276	3	N4/6.S IN5408 V150ZA1	ENTRELEC MEJDAF RS	11521310 02-049 239-270	FRANCE	D		XTJ	SPRING LOADED TERMINAL BLOCKS FOR TELEPHONE JACK	701	5	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE		XSH	SPRING LOADED TERMINAL BLOCKS FOR SPACE HEATER	701	3	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE																			E																																					F																																				
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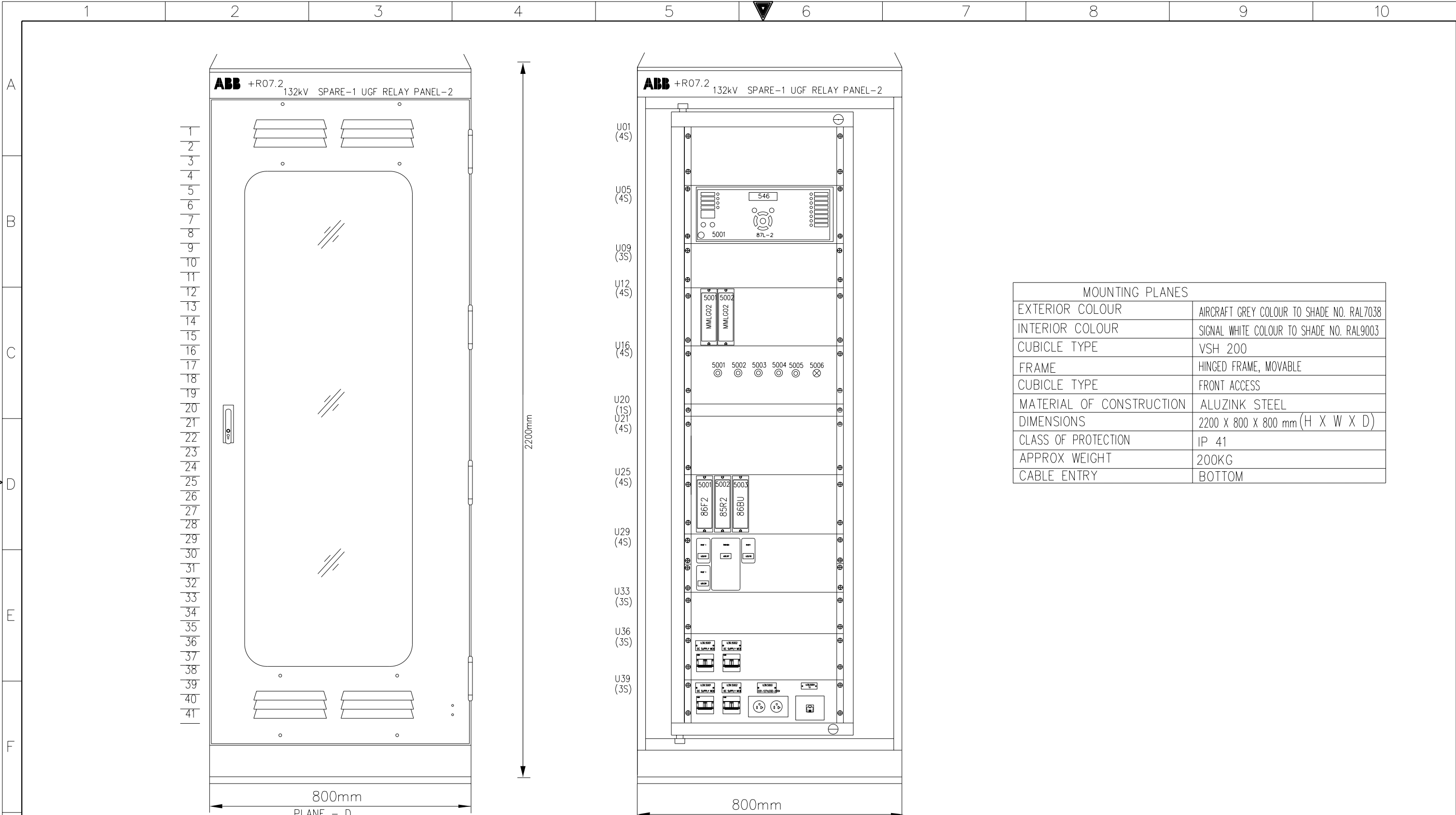
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REV. NO.	DATE	DESCRIPTION								-	C421	CD-322923		SHT	CONT.	01			
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RIYADH	SAUDI ARABIA	-	C421	CD-322923
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A			POWER SYSTEMS NETWORK MANAGEMENT PROTECTION AND SUBSTATION AUTOMATION SYSTEMS WBS NO: S-13656					ABB AUTOMATION COMPANY LTD., 414, AL-KHARJ ROAD SECOND INDUSTRIAL CITY RIYADH-11383 K.S.A																																																																																																					
B																																																																																																													
C	CONTRACTOR : ABB Contracting Company																																																																																																												
	CLIENT : National Gridsa																																																																																																												
D	PROJECT : CONSTRUCTION OF NEW 132/13.8kV SS 8709 IN AL-KHARJ CITY																																																																																																												
	SUBSTATION : S/S 8709																																																																																																												
E	CONTRACT NO. : 11131113/00																																																																																																												
	TITLE : Assembly Drawing +R07.2 [Under Ground Feeder]																																																																																																												
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MOUNTING PLANES	
EXTERIOR COLOUR	AIRCRAFT GREY COLOUR TO SHADE NO. RAL7038
INTERIOR COLOUR	SIGNAL WHITE COLOUR TO SHADE NO. RAL9003
CUBICLE TYPE	VSH 200
FRAME	HINGED FRAME, MOVABLE
CUBICLE TYPE	FRONT ACCESS
MATERIAL OF CONSTRUCTION	ALUZINK STEEL
DIMENSIONS	2200 X 800 X 800 mm (H X W X D)
CLASS OF PROTECTION	IP 41
APPROX WEIGHT	200KG
CABLE ENTRY	BOTTOM

AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656

Ø1	13 49	FACTORY ASBUILT	DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>
		FOR APPROVAL	
	13 04		
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>

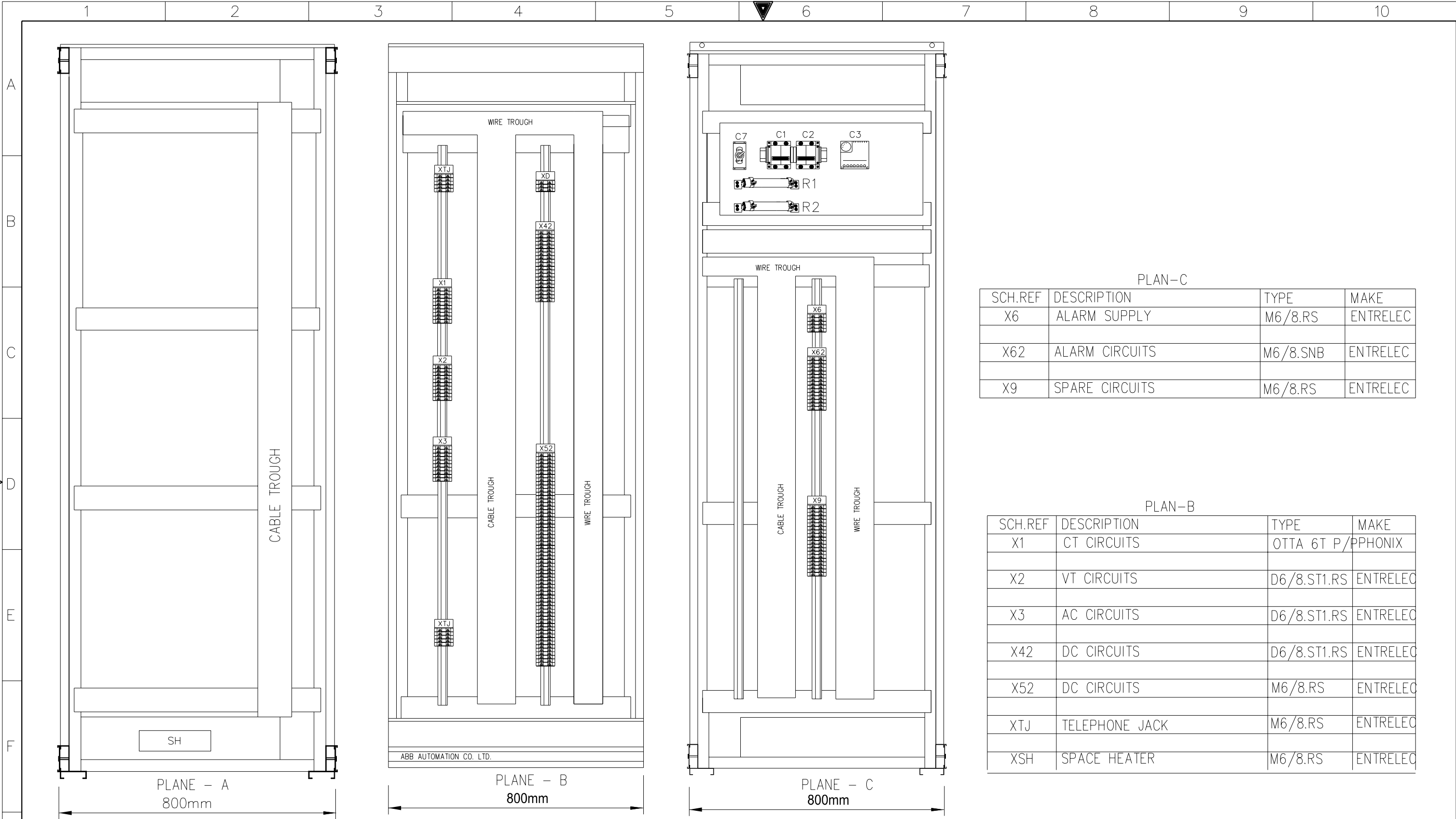
ASSEMBLY DRAWING

132kV UGF-SPARE-1 RELAY PANEL-2+R07.2

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء		نقل الكهرباء		National Grid sa	
INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.	
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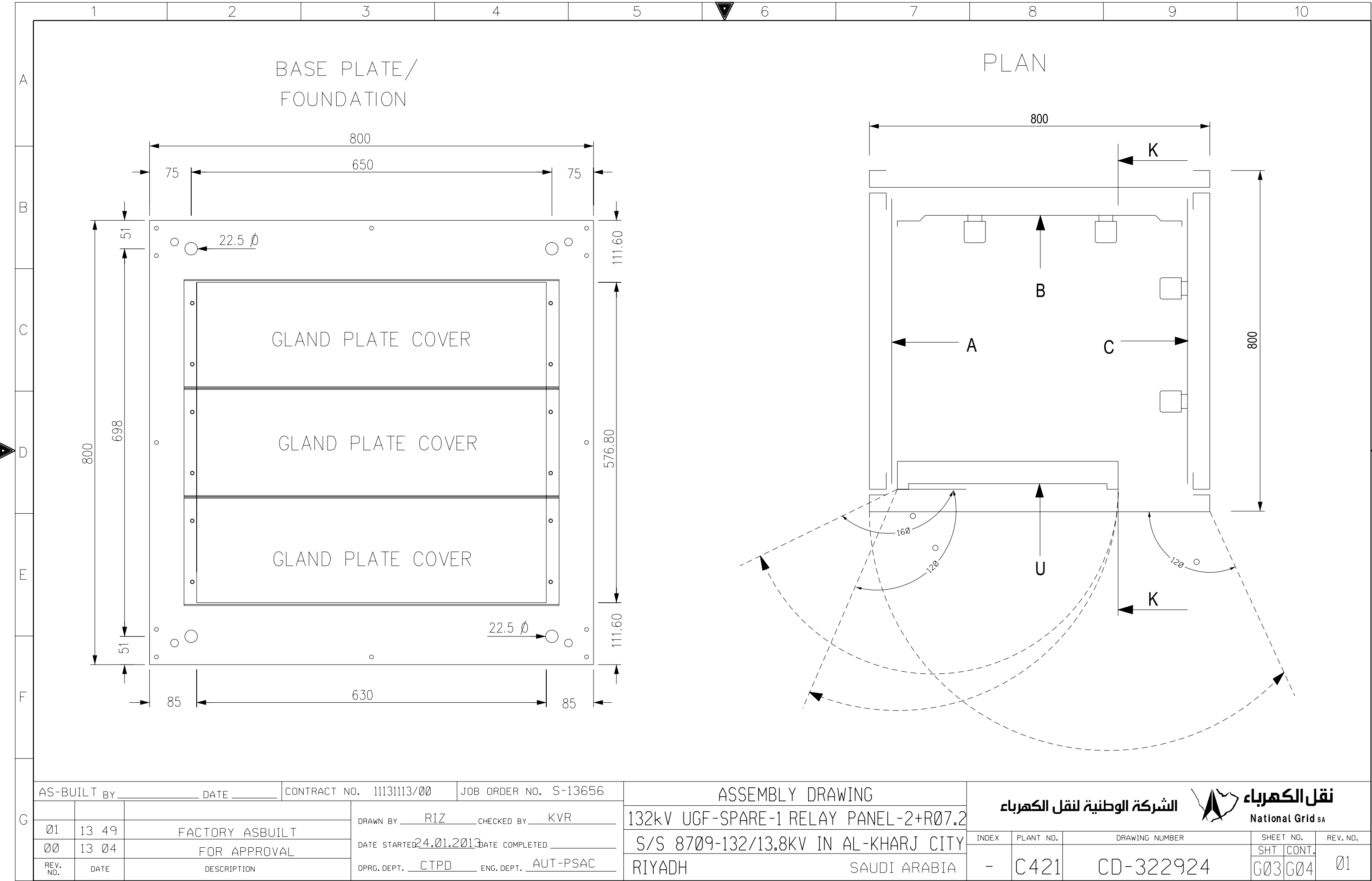


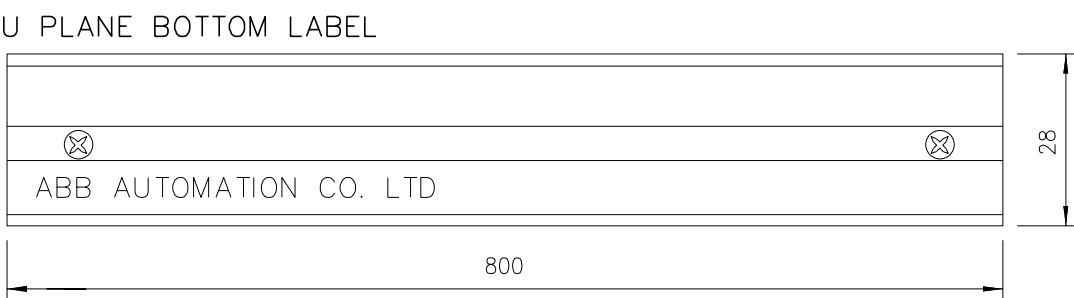
PLAN-C			
SCH.REF	DESCRIPTION	TYPE	MAKE
X6	ALARM SUPPLY	M6/8.RS	ENTRELEC
X62	ALARM CIRCUITS	M6/8.SNB	ENTRELEC
X9	SPARE CIRCUITS	M6/8.RS	ENTRELEC

PLAN-B			
SCH.REF	DESCRIPTION	TYPE	MAKE
X1	CT CIRCUITS	OTTA 6T P/PPHONIX	
X2	VT CIRCUITS	D6/8.ST1.RS	ENTRELEC
X3	AC CIRCUITS	D6/8.ST1.RS	ENTRELEC
X42	DC CIRCUITS	D6/8.ST1.RS	ENTRELEC
X52	DC CIRCUITS	M6/8.RS	ENTRELEC
XTJ	TELEPHONE JACK	M6/8.RS	ENTRELEC
XSH	SPACE HEATER	M6/8.RS	ENTRELEC

G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		ASSEMBLY DRAWING		الشركة الوطنية لنقل الكهرباء National Grid sa						
					DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-1 RELAY PANEL-2+R07.2								
	01	13 49	FACTORY ASBUILT		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
	00	13 04	FOR APPROVAL		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		-	C421	CD-322924		SHT G02 CONT. G03		01
	REV. NO.	DATE	DESCRIPTION												







MANUFACTURING LABEL



PROJECT :	National Grid SA S/S 8709
ORDER REFERENCE :	2875 RF S13656
YEAR OF MANUFACTURE:	2013
PANEL NO. :	+R07.2
DRAWING NO. :	S13656-CD-323925

MADE IN THE KINGDOM OF SAUDI ARABIA

AS-BUILT BY _____ DATE _____	CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656
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			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>
01	13 49	FACTORY ASBUILT	DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____
00	13 04	FOR APPROVAL	
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>

ASSEMBLY DRAWING

132kV UGF-SPARE-1 RELAY PANEL-2+R07.2

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

## الشركة الوطنية لنقل الكهرباء







INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
-	C421	CD-322924	SHT	CONT.	01
			G04	L00	

NG/D2-D (2012/01)

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A			POWER SYSTEMS NETWORK MANAGEMENT PROTECTION AND SUBSTATION AUTOMATION SYSTEMS WBS NO: S-13656					ABB AUTOMATION COMPANY LTD., 414, AL-KHARJ ROAD SECOND INDUSTRIAL CITY RIYADH-11383 K.S.A																																														
B																																																						
C	CONTRACTOR : ABB Contracting Company																																																					
	CLIENT : National Gridsa																																																					
D	PROJECT : CONSTRUCTION OF NEW 132/13.8kV SS 8709 IN AL-KHARJ CITY																																																					
	SUBSTATION : S/S 8709																																																					
E	CONTRACT NO. : 11131113/00																																																					
	TITLE : LIST OF APPARATUS +R07.2 [Under Ground Feeder]																																																					
F																																																						
G	<table><tr><td colspan="3">AS-BUILT BY _____ DATE _____</td><td colspan="2">CONTRACT NO. 11131113/00</td><td colspan="2">JOB ORDER NO. S-13656</td><td colspan="2">COVER SHEET</td><td colspan="2"> <b>نقل الكهرباء</b> الشركة الوطنية لنقل الكهرباء National Grid sa</td></tr><tr><td>01</td><td>13 49</td><td>FACTORY ASBUILT</td><td colspan="3">DRAWN BY RIZ CHECKED BY KVR</td><td colspan="3">132kV UGF-SPARE-1 RELAY PANEL-2+R07.2</td><td colspan="2">INDEX PLANT NO. DRAWING NUMBER SHEET NO. REV. NO.</td></tr><tr><td>00</td><td>13 04</td><td>FOR APPROVAL</td><td colspan="3">DATE STARTED 24.01.2013 DATE COMPLETED _____</td><td colspan="3">S/S 8709-132/13.8KV IN AL-KHARJ CITY</td><td colspan="2">SHT CONT. 01</td></tr><tr><td>REV. NO.</td><td>DATE</td><td>DESCRIPTION</td><td colspan="3">OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC</td><td colspan="3">RIYADH SAUDI ARABIA</td><td colspan="2">- C421 CD-322924 L00 L01</td></tr></table>										AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		COVER SHEET		 <b>نقل الكهرباء</b> الشركة الوطنية لنقل الكهرباء National Grid sa		01	13 49	FACTORY ASBUILT	DRAWN BY RIZ CHECKED BY KVR			132kV UGF-SPARE-1 RELAY PANEL-2+R07.2			INDEX PLANT NO. DRAWING NUMBER SHEET NO. REV. NO.		00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013 DATE COMPLETED _____			S/S 8709-132/13.8KV IN AL-KHARJ CITY			SHT CONT. 01		REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC			RIYADH SAUDI ARABIA			- C421 CD-322924 L00 L01	
AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		COVER SHEET		 <b>نقل الكهرباء</b> الشركة الوطنية لنقل الكهرباء National Grid sa																																													
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THIS DRAWING AND THE INFORMATION CONTAINED HEREIN ARE THE SOLE PROPERTY OF NATIONAL GRID SA NO REPRODUCTION IN FULL OR IN PART SHALL BE OBTAINED FROM THIS DOCUMENT WITHOUT THE WRITTEN CONSENT OF ITS OWNER.

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A	SR. NO.	LOC. REF	SCH. REF.	D E S C R I P T I O N				SHT	QTY.	TYPE	MAKE	ORD INFORMATION		COUNRTY OF ORIGIN						
				RELAY CUBICLE- +R07.2 ACCOMODATING THE FOLLOWING					1											
	1	U05.5001	87L-2	NUMERICAL HIGH SPEED CURRENT DISTANCE PROTECTION				498	1	P546	ALSTOM	P54631NK6M0710M		UK						
				VERSION : 1 & 3 POLE TRIPPING/RECLOSING MHO/QUAD CHAR																
				AUX : 110V-250V DC : 100-120V																
B				In/Vn : DUAL RATED CT (1/5A)																
				HARDWARE : EHETHER NET (100mbits) PLUS irig-b modulated																
				PRODUCT OPTION : CH1-1300nm SINGLE MODE																
				CH2-1300nm SINGLE MODE																
				PROTOCOL OPTION : IEC61850+COURIER VIA REAR RS485 PORT																
C				MOUNTING : 19” RACK,2A LOGICAL INPUTS,32 RELAY OUT PUTS																
				LANGUAGE : ENGLISH																
				SOFTWARE : 71																
	2	U12.5001	TS-1	TEST SWITCH FOR P546 RELAY				422	2	MMLG02	ALSTOM	MMLG02 R1AA 0001E		UK						
		U12.5002	TS-2																	
D	3	U16.5001	S03	PUSH BUTTON FOR FPSM IN SELECTION				432	1	MP1-10B	ABB	1SFA 611 100 R1006		SWEDEN						
				BUTTON COLOUR : BLACK						MCBH-20		1SFA 611 605 R1102								
				CONTACT DATA : 1NO + 1NC																
	4	U16.5002	S04	PUSH BUTTON FOR FPSM OUT SELECTION				432	1	MP1-10B	ABB	1SFA 611 100 R1006		SWEDEN						
				BUTTON COLOUR : BLACK						MCBH-20		1SFA 611 605 R1102								
E				CONTACT DATA : 1NO + 1NC																
	5	U16.5003	S86BU	PUSH BUTTON FOR 86BU RESET				443	1	MP1-10B	ABB	1SFA 611 100 R1006		SWEDEN						
				BUTTON COLOUR : BLACK						MCBH-20		1SFA 611 605 R1102								
				CONTACT DATA : 1NO + 1NC																
	6	U16.5004	S86F2	PUSH BUTTON FOR 86F2 RESET				432	1	MP1-10B	ABB	1SFA 611 100 R1006		SWEDEN						
F				BUTTON COLOUR : BLACK						MCBH-20		1SFA 611 605 R1102								
				CONTACT DATA : 1NO + 1NC																
	7	U16.5005	LT	PUSH BUTTON FOR 86F2 RESET				431	1	MP1-10B	ABB	1SFA 611 100 R1006		SWEDEN						
				BUTTON COLOUR : BLACK						MCBH-20		1SFA 611 605 R1102								
				CONTACT DATA : 1NO + 1NC																
F	8	U16.5006	L01	INDICATION LAMP OUT				431	1	MC1-100W	ABB	1SFA 611 400 R1003		SWEDEN						
				LENS : WHITE						MCBH-003		1SFA 611 605 R1400								
				LENS RATING 110-130V,4-6MA						KA2-2145		1SFA 616 921 R2145								
				HOLDER RATING :130V WITH RESISTORS DIODE BLOCK																
G	AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00			JOB ORDER NO. S-13656			COVER SHEET				الشركة الوطنية لنقل الكهرباء National Grid sa						
				DRAWN BY RIZ CHECKED BY KVR			132kV UGF-SPARE-1 RELAY PANEL-2+R07.2				INDEX		PLANT NO.		DRAWING NUMBER		SHEET NO.		REV. NO.	
	01	13 49	FACTORY ASBUILT	DATE STARTED 24.01.2013 DATE COMPLETED _____			S/S 8709-132/13.8KV IN AL-KHARJ CITY										SHT		CONT.	
	00	13 04	FOR APPROVAL	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC			RIYADH SAUDI ARABIA				-		C421		CD-322924		L01		L02	
	REV. NO.	DATE	DESCRIPTION																	

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C	SR. NO.	LOC. REF	SCH. REF.	D E S C R I P T I O N		SHT	QTY.	TYPE	MAKE	ORD INFORMATION	COUNRTY OF ORIGIN			
				RELAY CUBICLE- +R07.2 ACCOMODATING THE FOLLOWING										
	12	U29.101	74R2/74R3	DUAL COIL RELAY FOR + R2/R3 DC SUPERVISION		432,443	2	RXSF 1	ABB	RK 271 019-AN	SWEDEN			
		U29.119	74IT2	AUXILIARY VOLTAGE : 110-125VDC		433								
				CONTACT DATA : 1NO + 2NC PER COIL										
	13	U29.107	K01S	BISTABLE RELAY FOR "IN/OUT SELECTION"		432	1	RXMVB4	ABB	1MRK 251 401 AP	SWEDEN			
				AUXILIARY VOLTAGE : 110 - 125V DC										
				OUTPUT CONTACTS : 7NO + 7NC										
D	14	U29.301	TMR/86F2	DELAY ON PICKUP DELAY FOR RESET 86F2		432	1	RXKL1	ABB	1MRK 000-066-AB	SWEDEN			
				AUXILIARY VOLTAGE : 110-125VDC										
				CONTACT DATA : 2 C/O										
				TIMER RANGE : 20MS-99 hrs										
E														
F														
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		<div>الشركة الوطنية لنقل الكهرباء</div> <div> نقل الكهرباء National Grid sa</div>					
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	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		-	C421	CD-322924	SHT L03	CONT. L04	01

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SR. NO.	ITEM DESIGNATION	D E S C R I P T I O N	SHEET.NO.	QTY.	TYPE	MAKE	ORDERING INFORMATION	COUNTRY OF ORIGIN
24	X1	BOLT CONNECTING TERMINAL BLOCKS FOR DISCONNECTABLE CT CIRCUITS	501	10	OTTA 6T P/P	PHOENIX	0790462	GERMANY
	X2	SPRING LOADED TERMINAL BLOCKS FOR DISCONNECTABLE VT CIRCUITS	501	5	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400	FRANCE
	X3	SPRING LOADED TERMINAL BLOCKS FOR DISCONNECTABLE AC CIRCUITS	501	10	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400	FRANCE
	X42	SPRING LOADED TERMINAL BLOCK FOR DISCONNECTABLE DC CIRCUITS	501	50	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400	FRANCE
	X52	SPRING LOADED TERMINAL BLOCK FOR DC PROTN. CIRCUITS	501	50	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE
	X62,X6	KNIFE TYPE TERMINAL BLOCKS FOR COMMON ALARM CIRCUITS	501	15,5	M6/8.SNB	ENTRELEC	1SNA 115 685 R1200	FRANCE
	X9	SPRING LOADED TERMINAL BLOCKS FOR SPARE CIRCITS	501	15	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE
	XTJ	SPRING LOADED TERMINAL BLOCKS FOR TELEPHONE JACK	501	5	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE
	XSH	SPRING LOADED TERMINAL BLOCKS FOR SPACE HEATER	501	3	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE
	XD	TERMINAL BLOCKS WITH BLOCKING DIODE	501	3	M4/6.S IN5408 V150ZA1	ENTRELEC MEJDAF RS	11521310 02-049 239-270	FRANCE
	X6	SPRING LOADED TERMINAL BLOCKS FOR ALARM CIRCITS	501	5	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE

AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		<div>الشركة الوطنية لنقل الكهرباء</div> <div> <b>نقل الكهرباء</b> National Grid sa</div>				
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00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY					SHT	CONT.
REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		-	C421	CD-322924	L05	L06
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NG/D2-D (2012/01)

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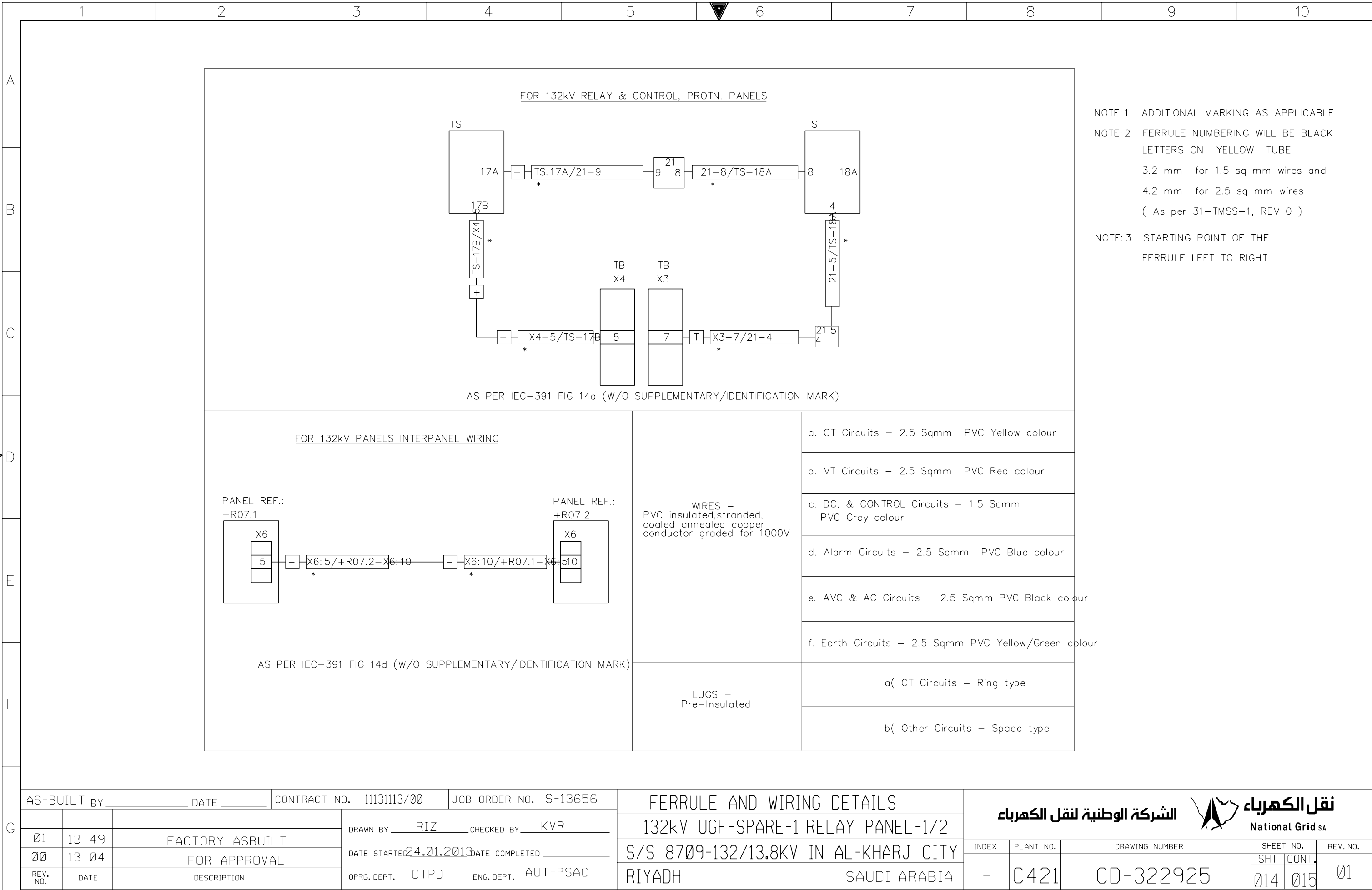


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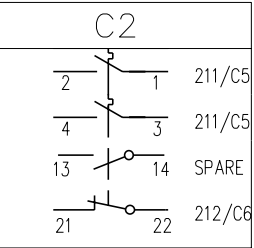
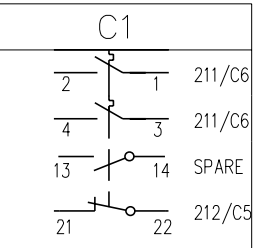
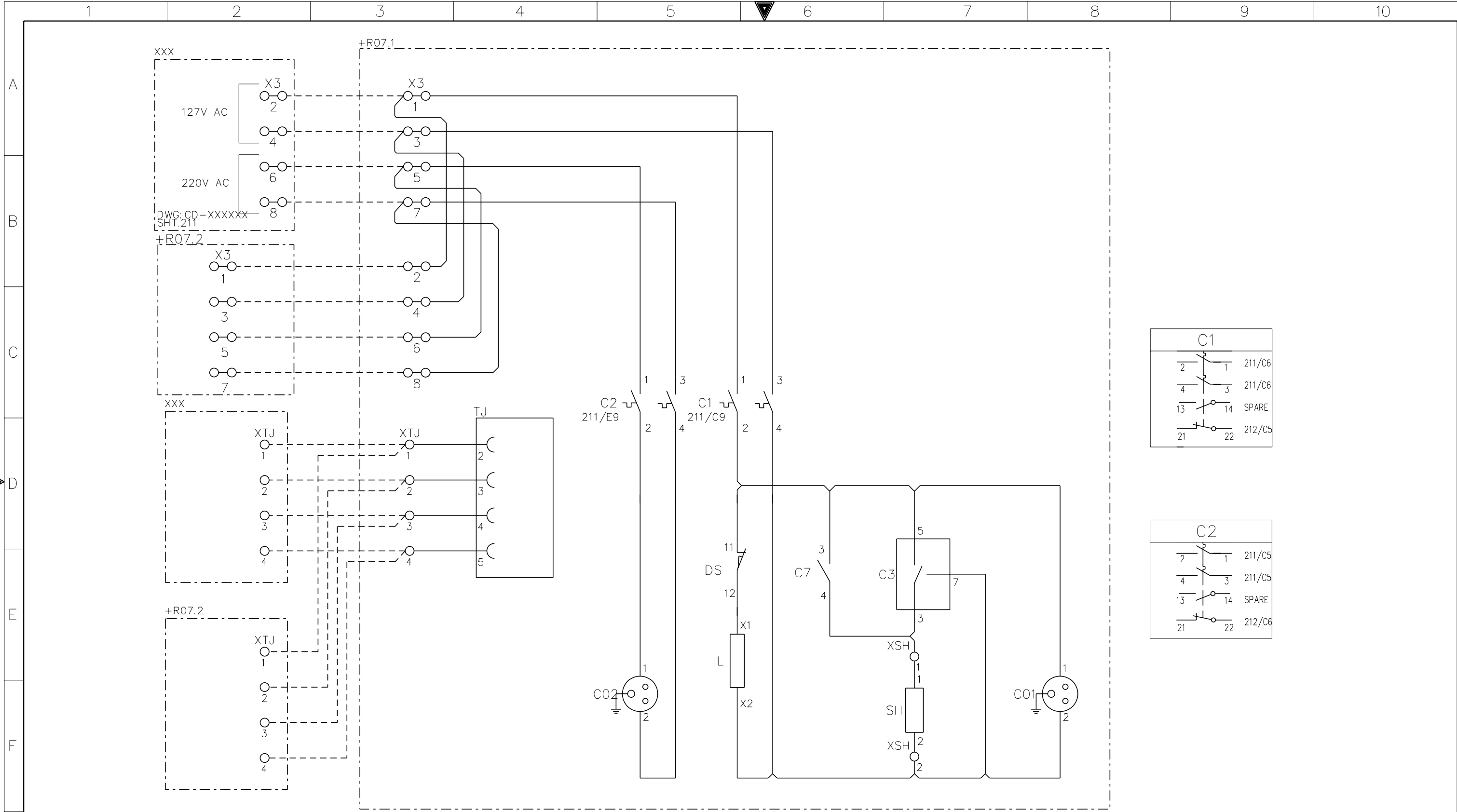


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CD-322997	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-4																																																																																																
CD-322999	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-5																																																																																																
CD-323001	132kV BUSBAR PROTECTION MAIN-2 CENTRAL UNIT PANEL	+BB2-1																																																																																																
CD-323003	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-2																																																																																																
CD-323005	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-3																																																																																																
CD-323007	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-4																																																																																																
CD-323009	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-5																																																																																																
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	00	13 04	FOR APPROVAL		RIYADH SAUDI ARABIA		-	C421	CD-322925	SHT 015	CONT. 016																																																																																							
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC																																																																																													

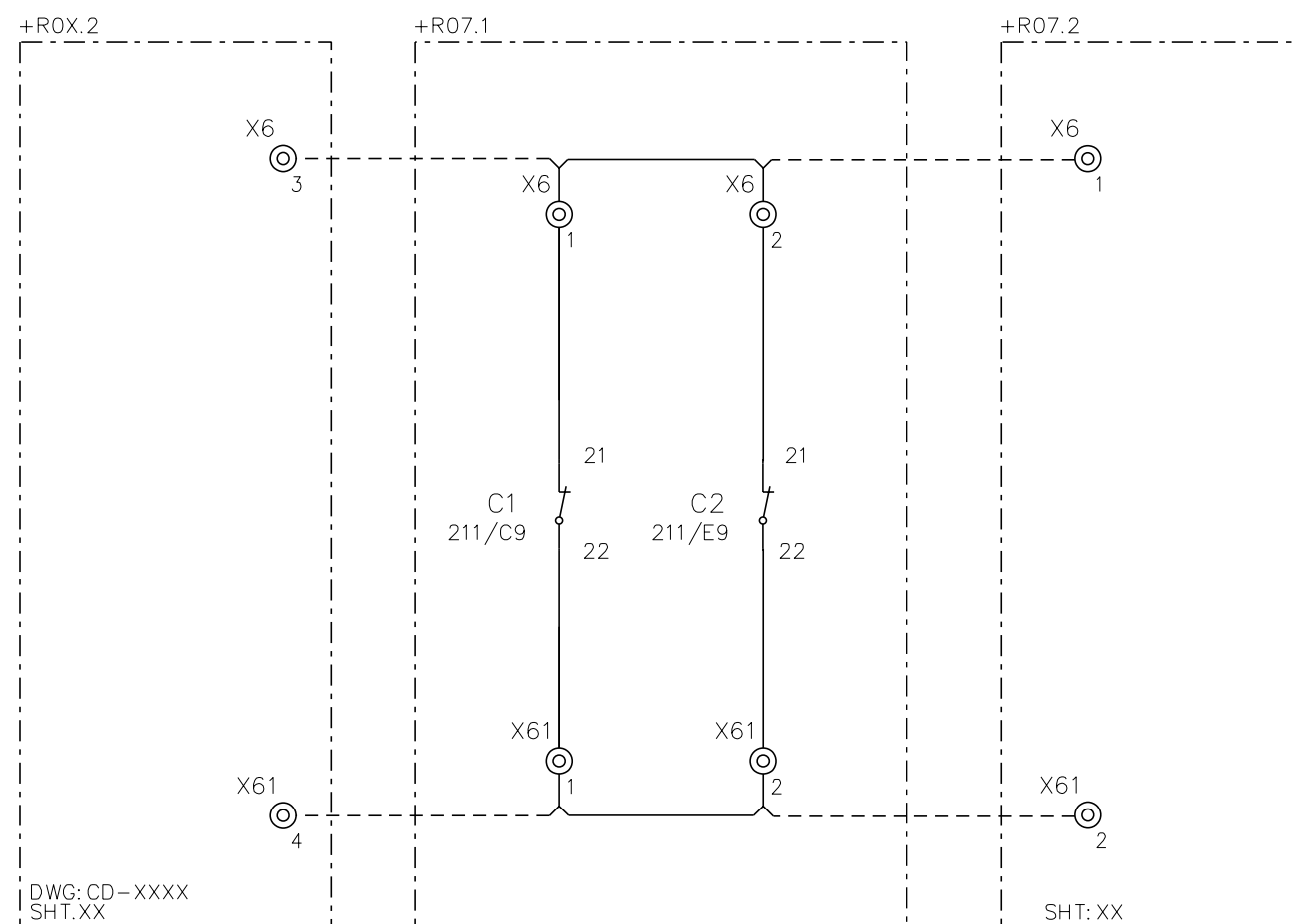
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AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		DRAWING REFERENCES			<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>																																																																							
			DRAWN BY RIZ		CHECKED BY KVR		132kV UGF-SPARE-1 RELAY PANEL-1/2			INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.																																																																			
	01	13 49	FACTORY ASBUILT		DATE STARTED 24.01.2013		DATE COMPLETED		S/S 8709-132/13.8KV IN AL-KHARJ CITY			SHT	CONT.	01																																																																			
	00	13 04	FOR APPROVAL		OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA			016	051																																																																				
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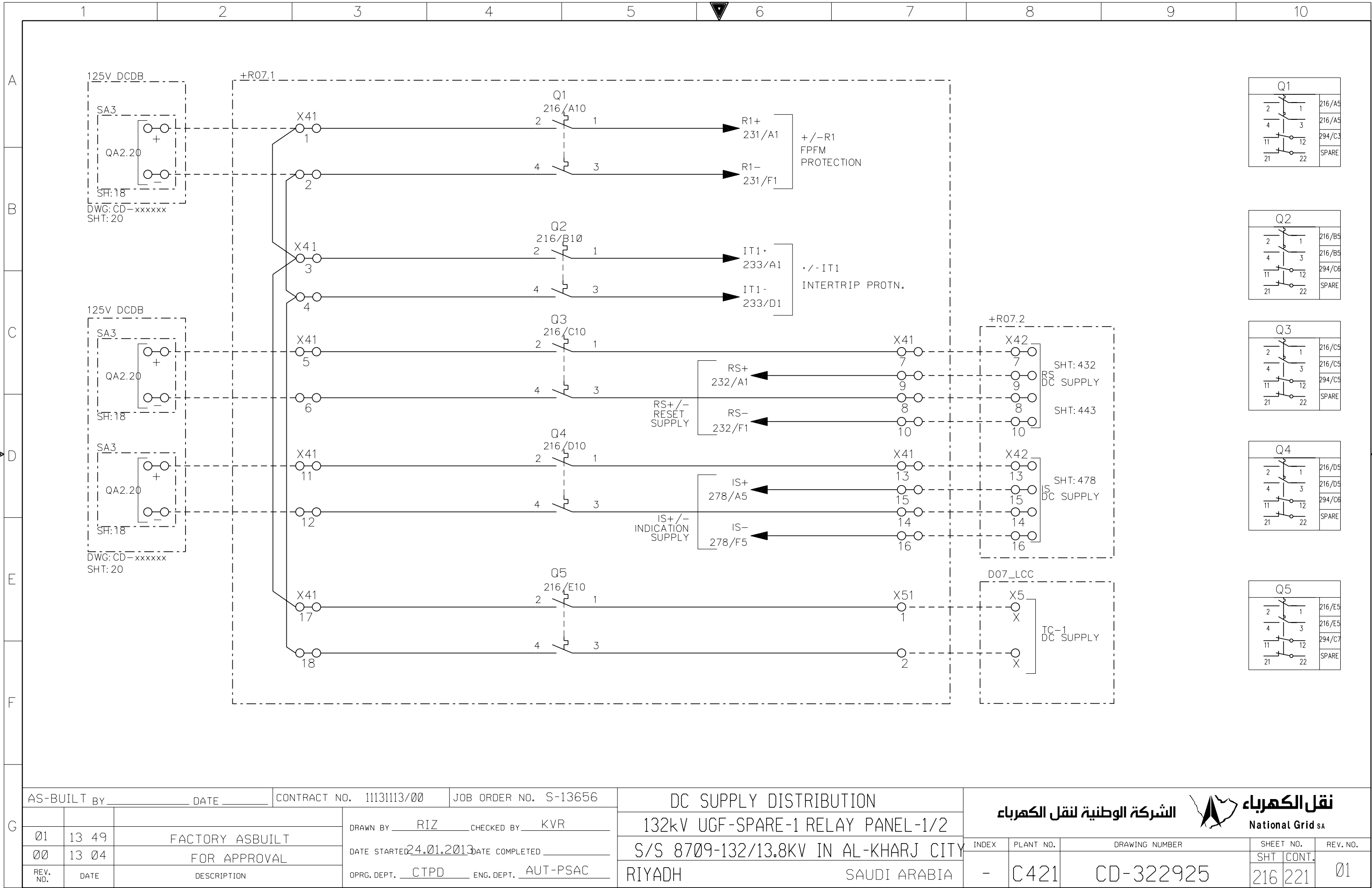
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	00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		-	C421	CD-322925		SHT	CONT.	01
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA						211	212	



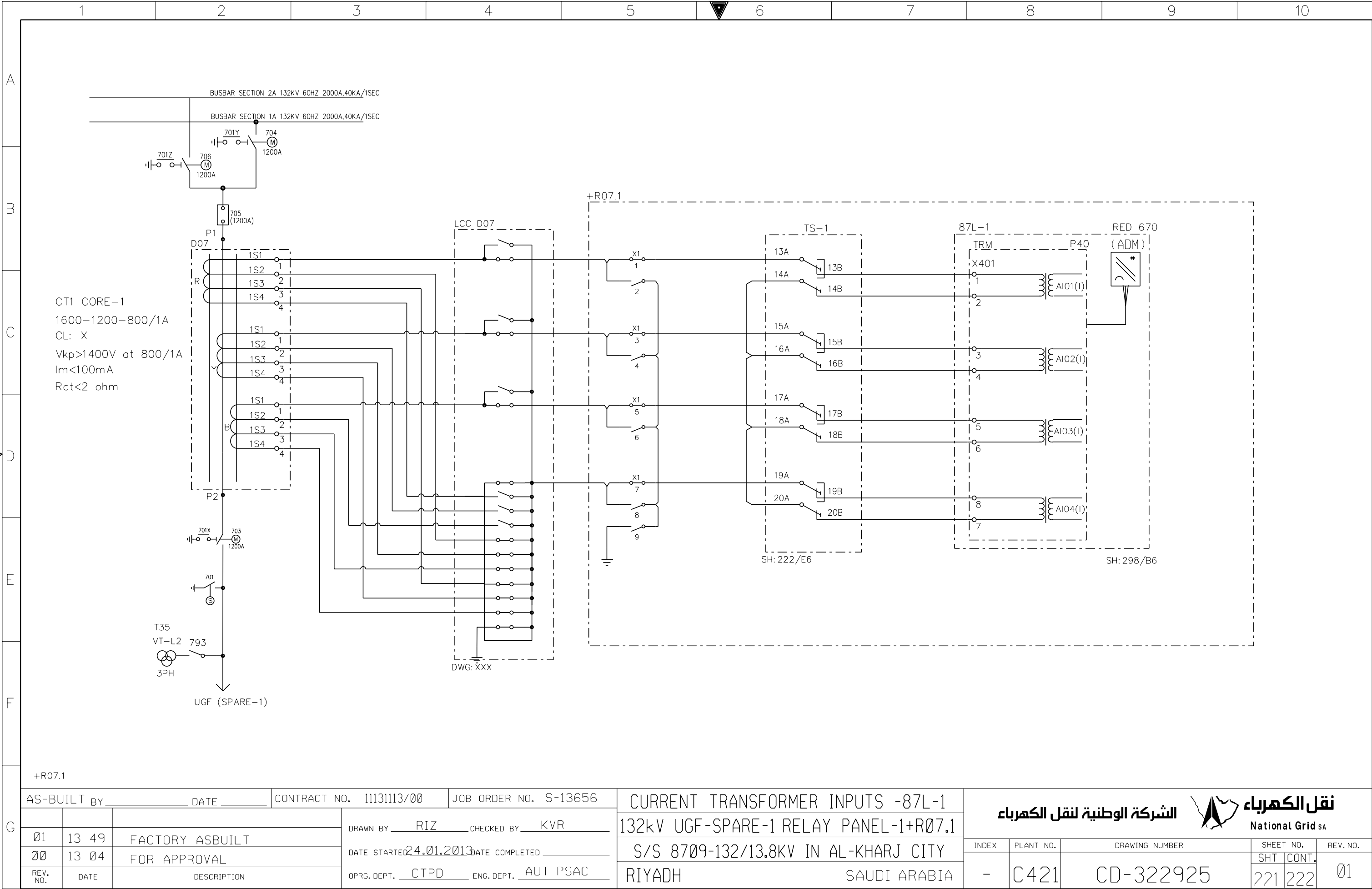
AS-BUILT BY _____		DATE _____	CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656
			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>	
01	13 49	FACTORY ASBUILT		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____
00	13 04	FOR APPROVAL		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>
REV. NO.	DATE	DESCRIPTION		

AC MCB AUX CONTACTS	
132kV UGF-SPARE-1 RELAY PANEL-1/2	
S/S 8709-132/13.8KV IN AL-KHARJ CITY	
RIYADH	SAUDI ARABIA

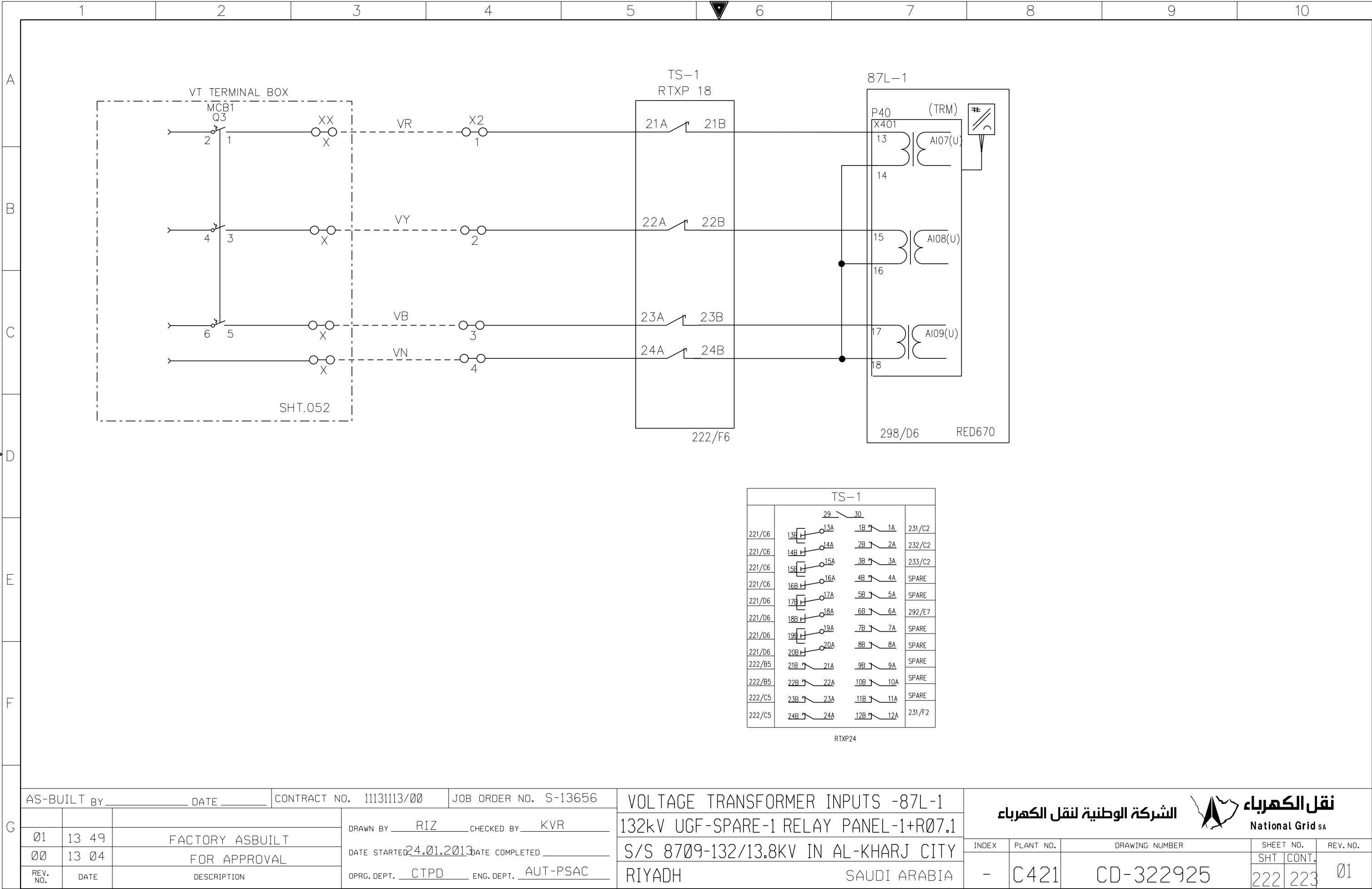
<div><div><div><div>نقل الكهرباء</div><div>National Grid SA</div></div></div><div><div>الشركة الوطنية لنقل الكهرباء</div></div></div>					
Y	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
	-	C421	CD-322925	<div>SHT</div> <div>212</div> <div>CONT.</div> <div>216</div>	01

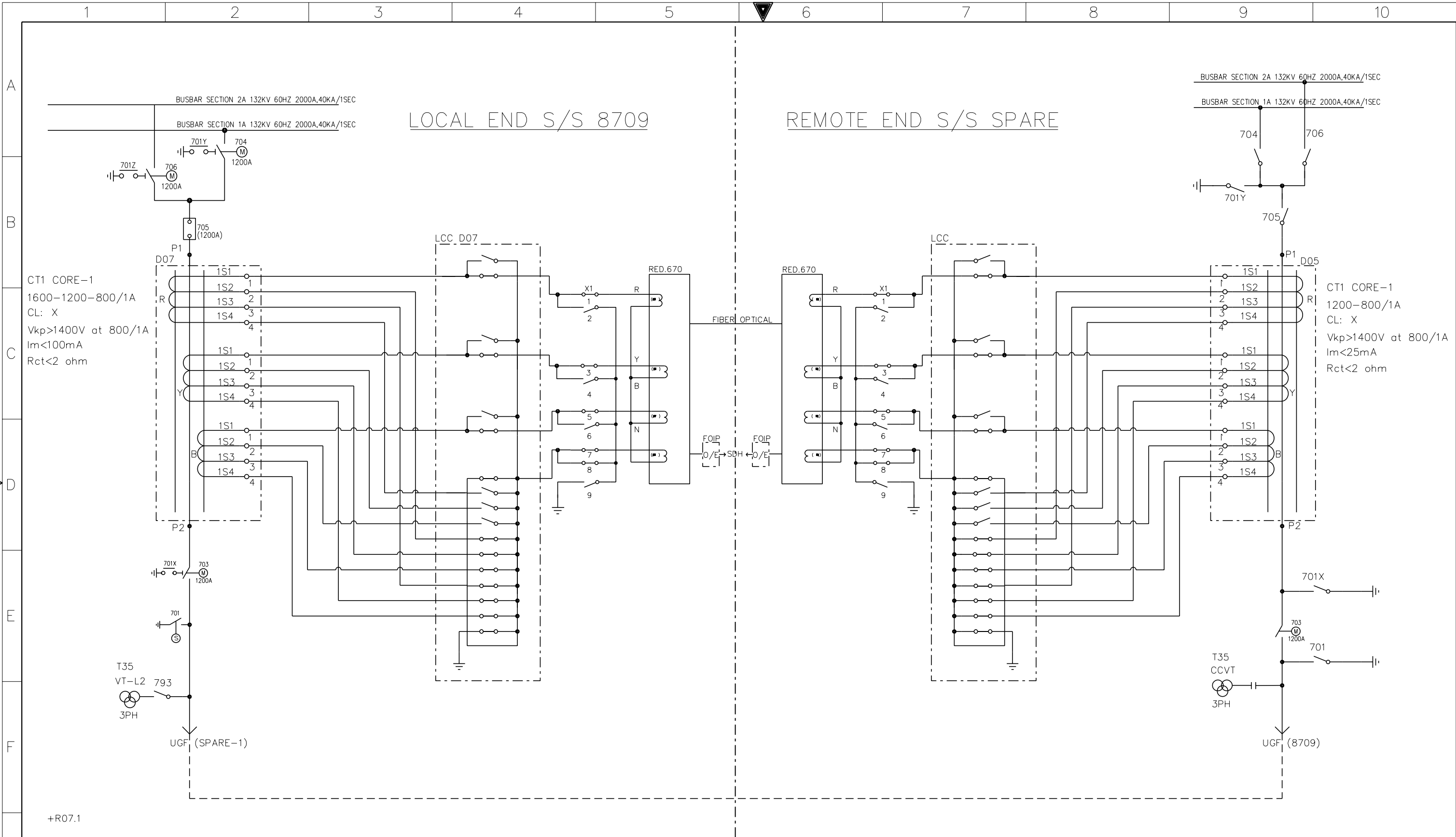






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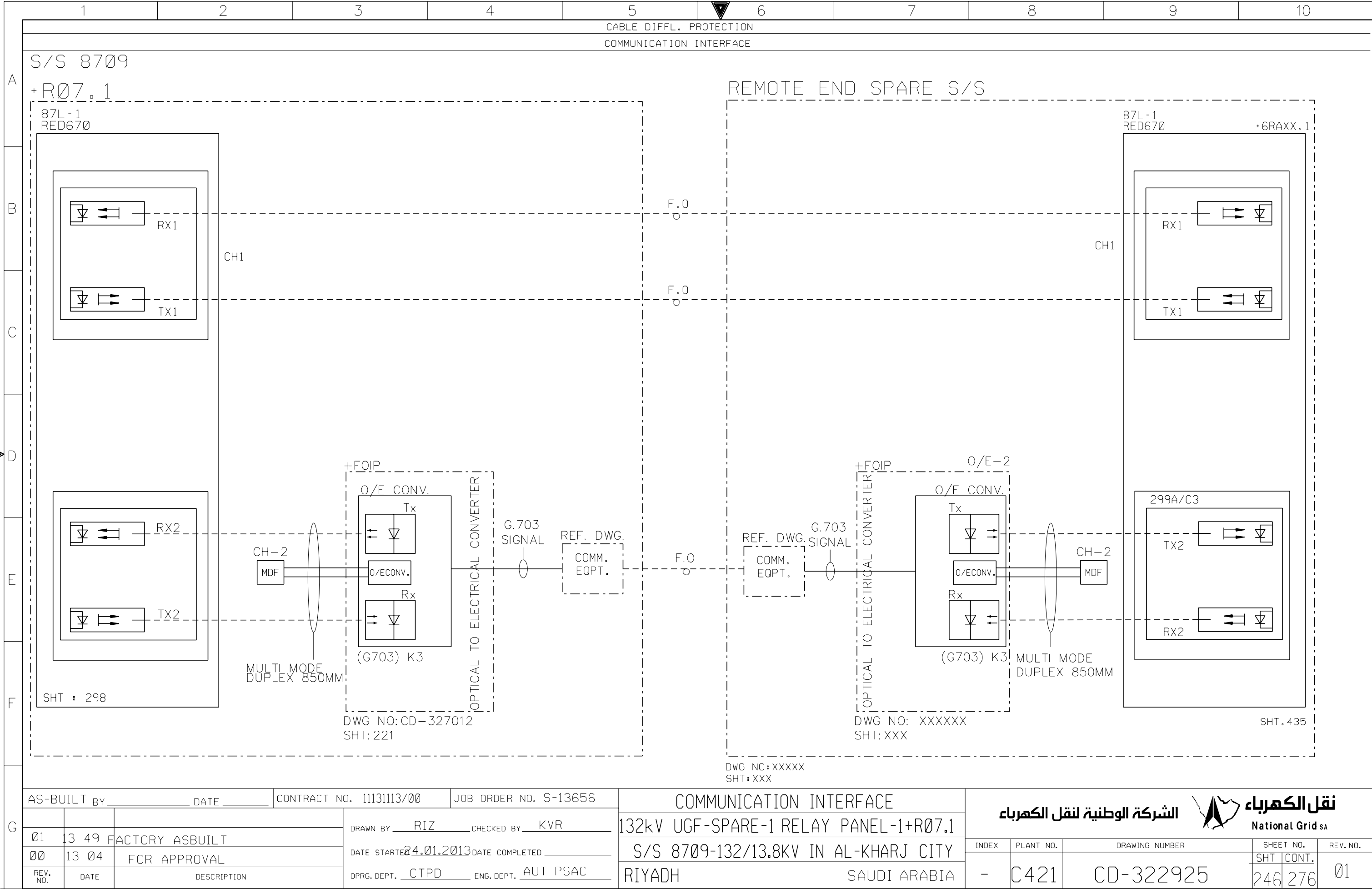


G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		COMMUNICATION CIRCUITS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>		<div>INDEX</div> <div>PLANT NO.</div> <div>DRAWING NUMBER</div> <div>SHEET NO.</div> <div>REV. NO.</div>			
				DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-1 RELAY PANEL-1+R07.1								
	01	13 49	FACTORY ASBUILT		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY							
	00	13 04	FOR APPROVAL		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA							
	REV. NO.	DATE	DESCRIPTION						-	C421	CD-322925	SHT 223	CONT. 231	01







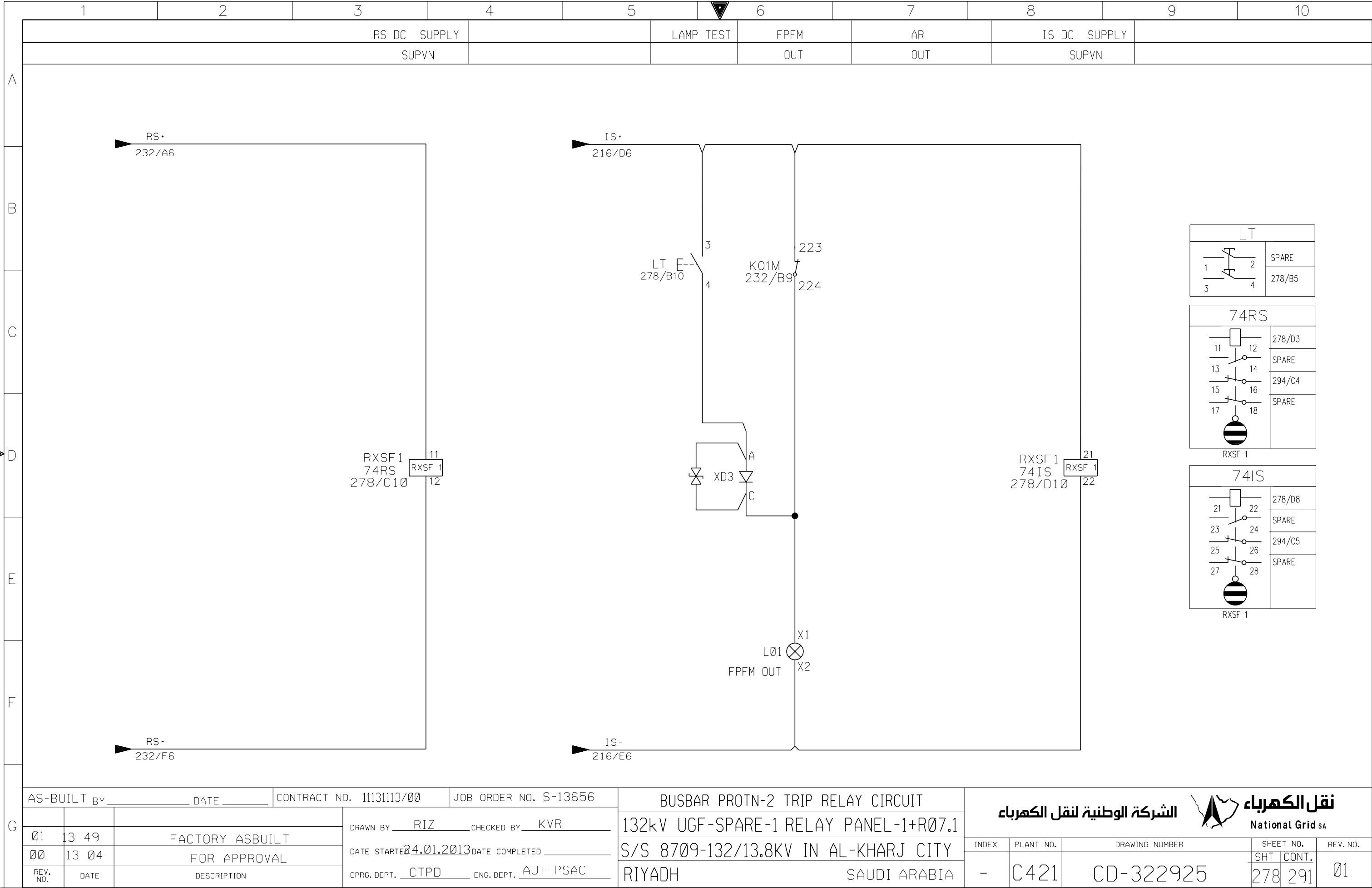


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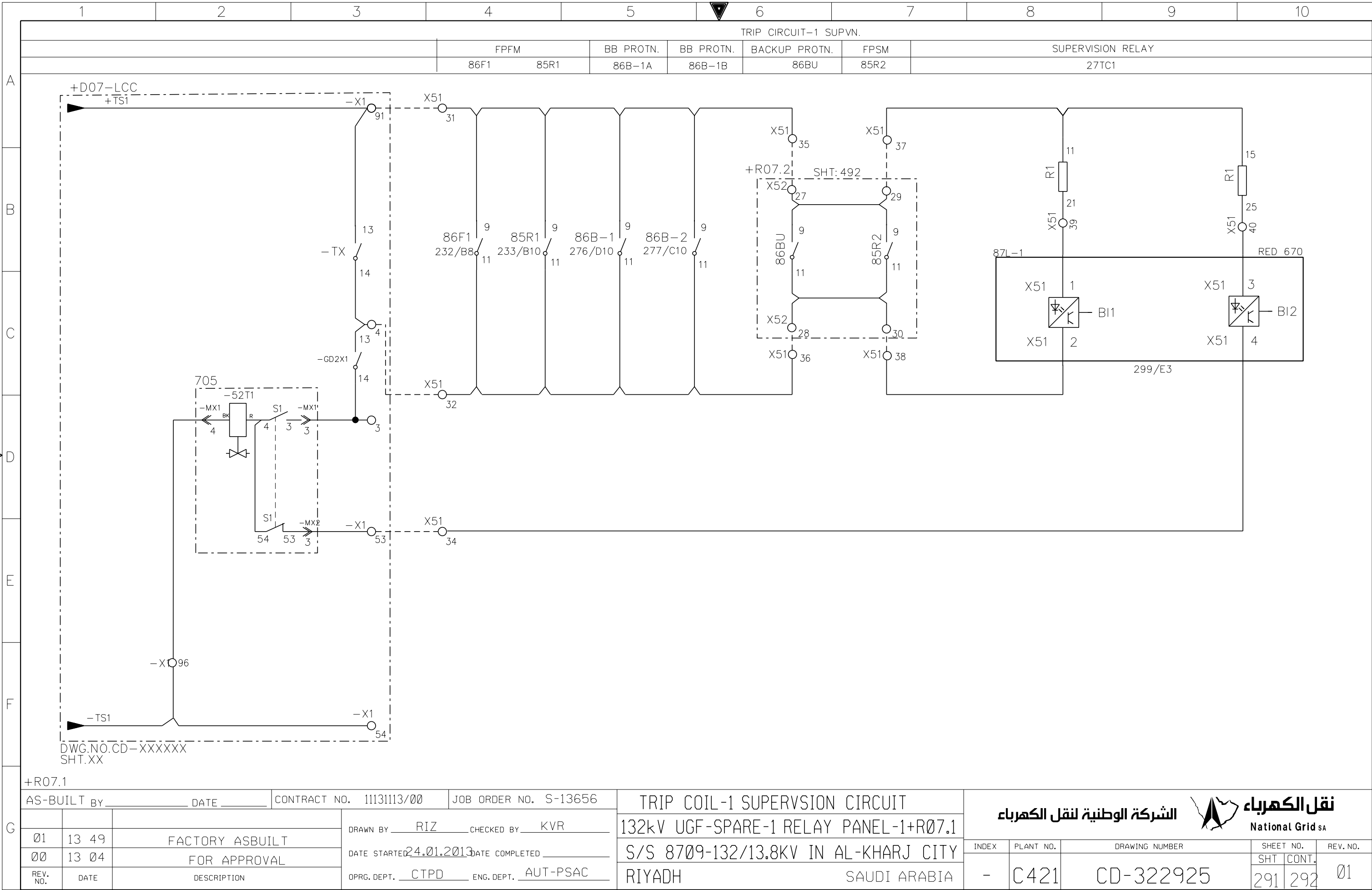


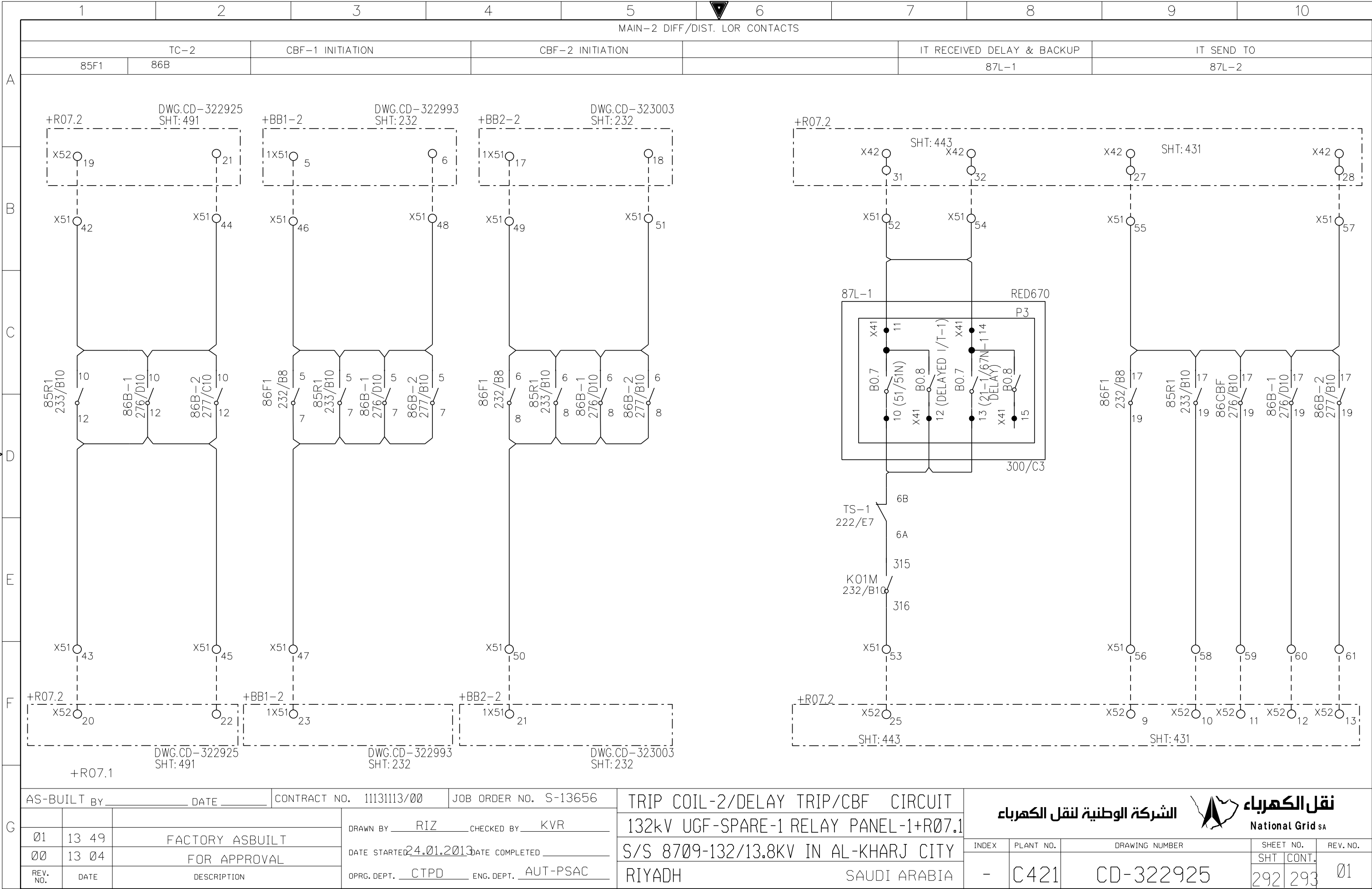





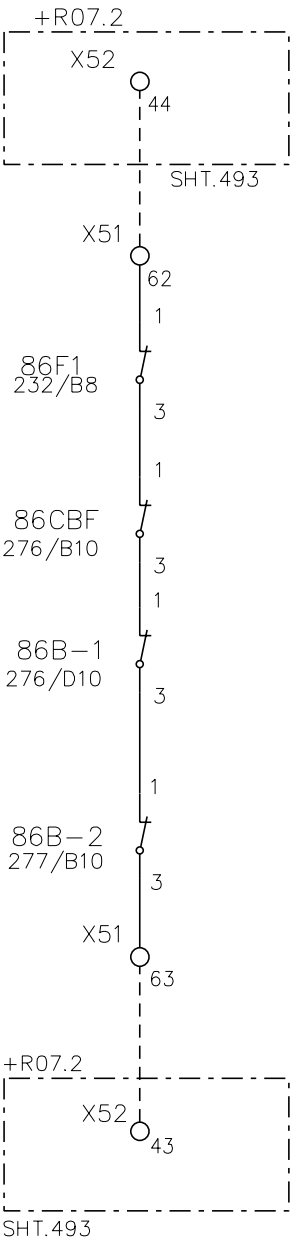


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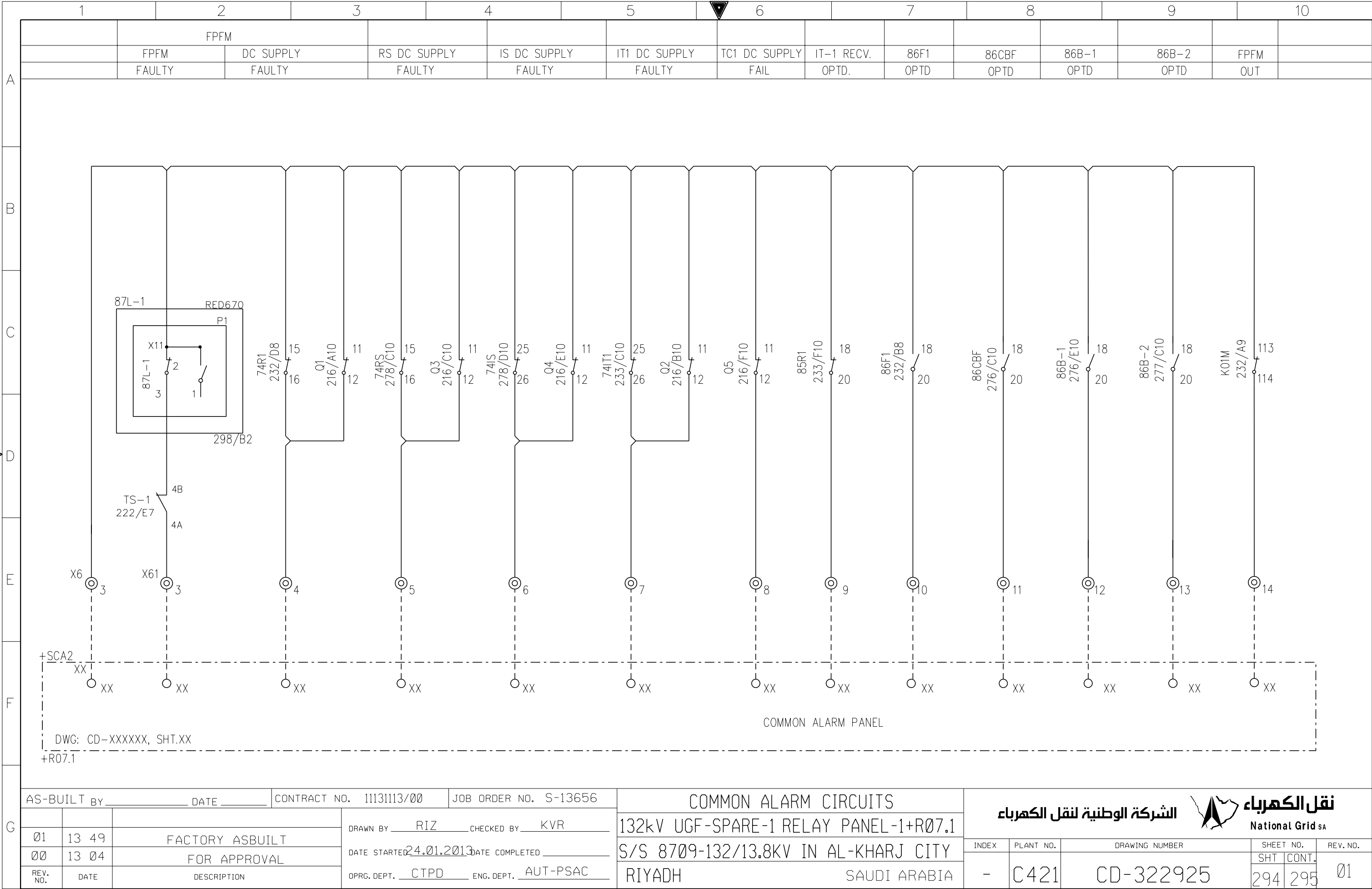





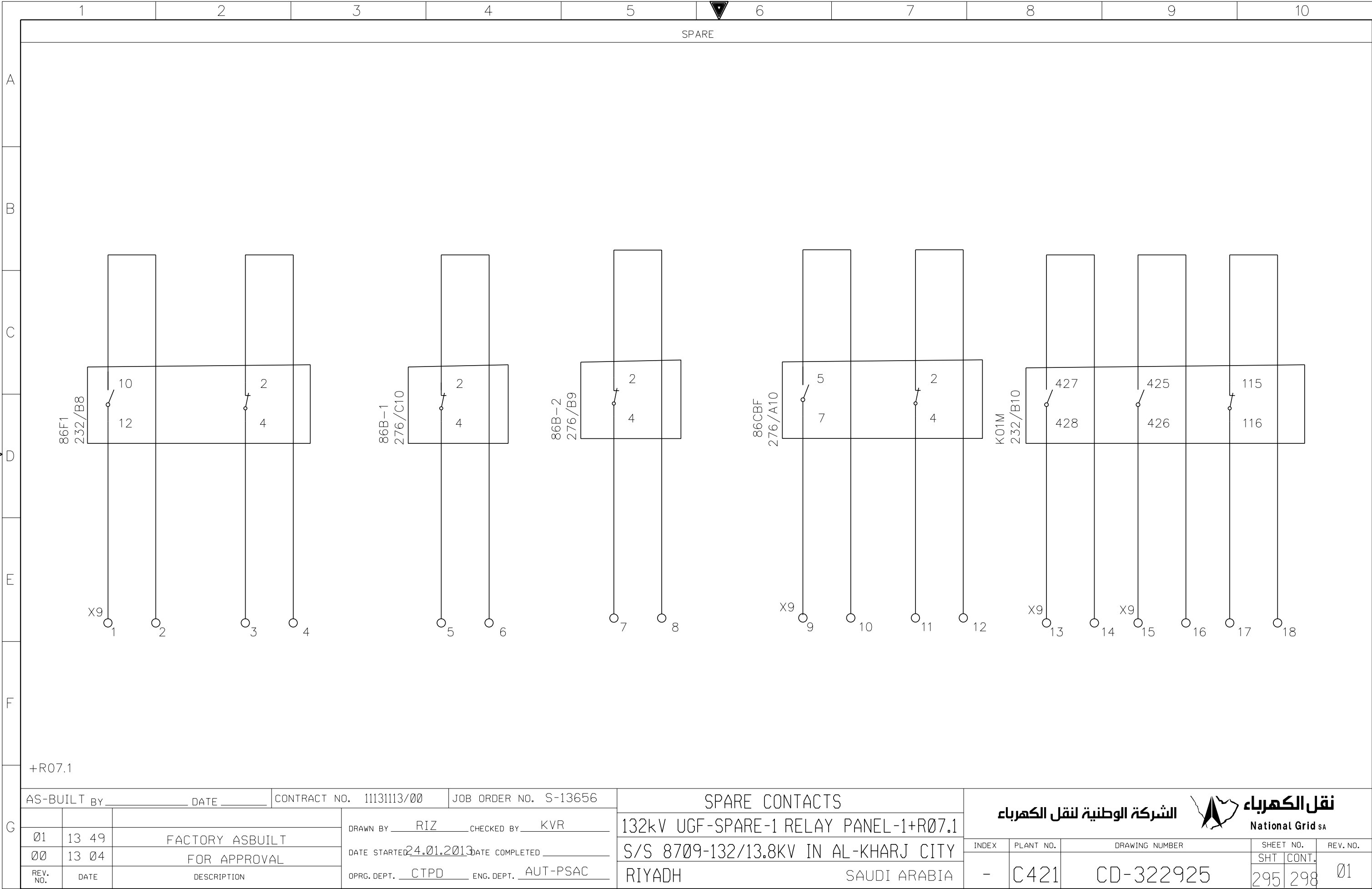
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A	CLOSE BLOCKING														
	PROTECTION														
B															
C															
D															
E															
F															
G	AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		CLOSE BLOCK CIRCUIT			<div>الشركة الوطنية لنقل الكهرباء</div> <div> <b>نقل الكهرباء</b> National Grid sa</div>				
	01	13 49	FACTORY ASBUILT	DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>			132kV UGF-SPARE-1 RELAY PANEL -1+R07.1			INDEX		PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
	00	13 04	FOR APPROVAL	DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____			S/S 8709-132/13.8KV IN AL-KHARJ CITY							SHT	CONT.
	REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>			RIYADH SAUDI ARABIA			-		C421	CD-322925	293	294

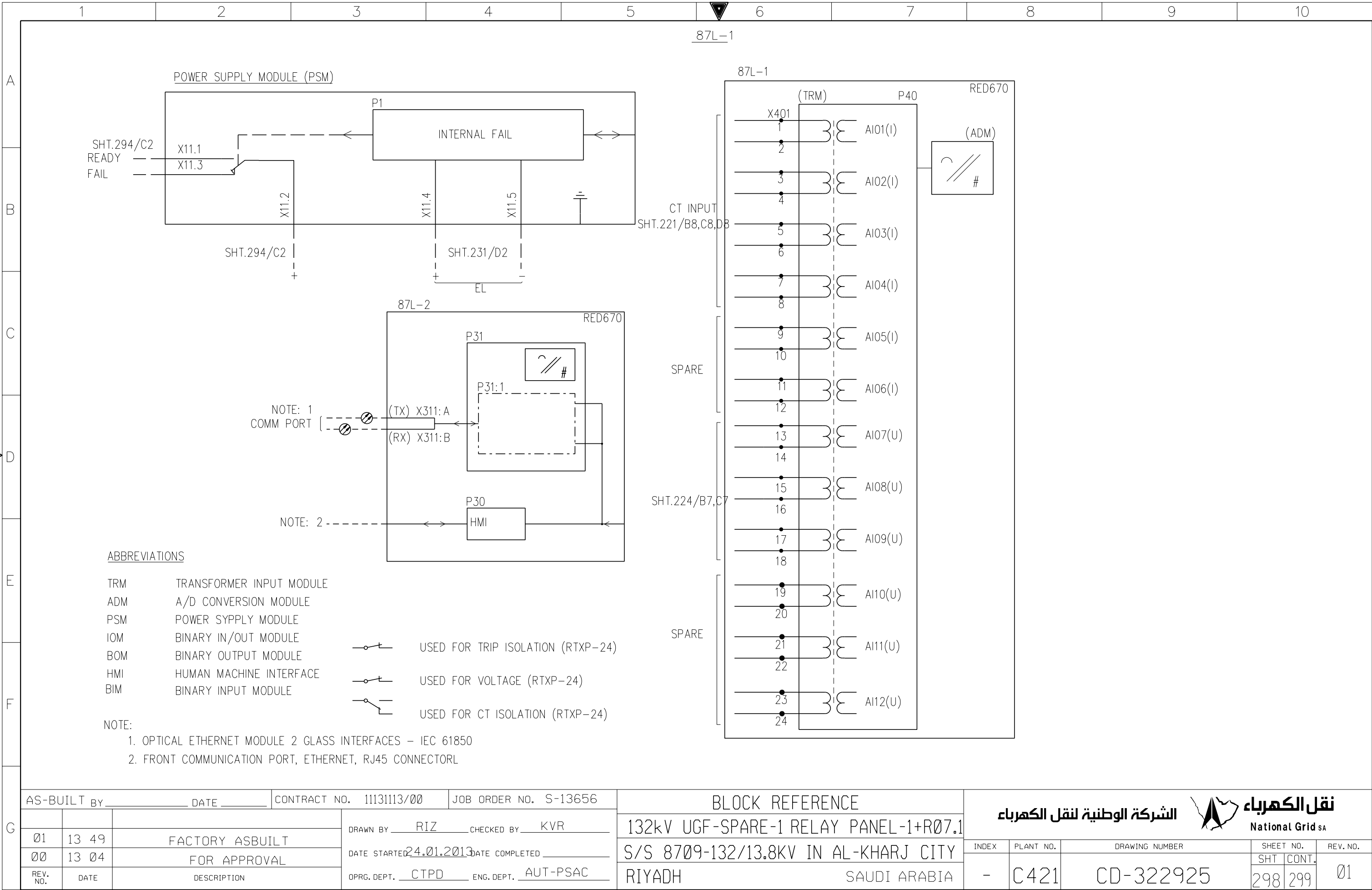


+R07.1



AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		COMMON ALARM CIRCUITS		<div>الشركة الوطنية لنقل الكهرباء</div> <div> نقل الكهرباء</div> <div>National Grid sa</div>					
01	13 49	FACTORY ASBUILT		DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-1 RELAY PANEL-1+R07.1		INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		-	C421	CD-322925		SHT	CONT.	01
REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA						294	295	





AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_ CONTRACT NO. 11131113/00 JOB ORDER NO. S-13656

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13 49

FACTORY ASBUILT

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13 04

FOR APPROVAL

REV. NO.

DATE

DESCRIPTION

DRAWN BY RIZ CHECKED BY KVR

DATE STARTED 24.01.2013 DATE COMPLETED \_\_\_\_\_

OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC

BLOCK REFERENCE

132kV UGF-SPARE-1 RELAY PANEL-1+R07.1

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء

National Grid sa

INDEX

PLANT NO.

DRAWING NUMBER

SHEET NO.

REV. NO.

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C421

CD-322925

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299

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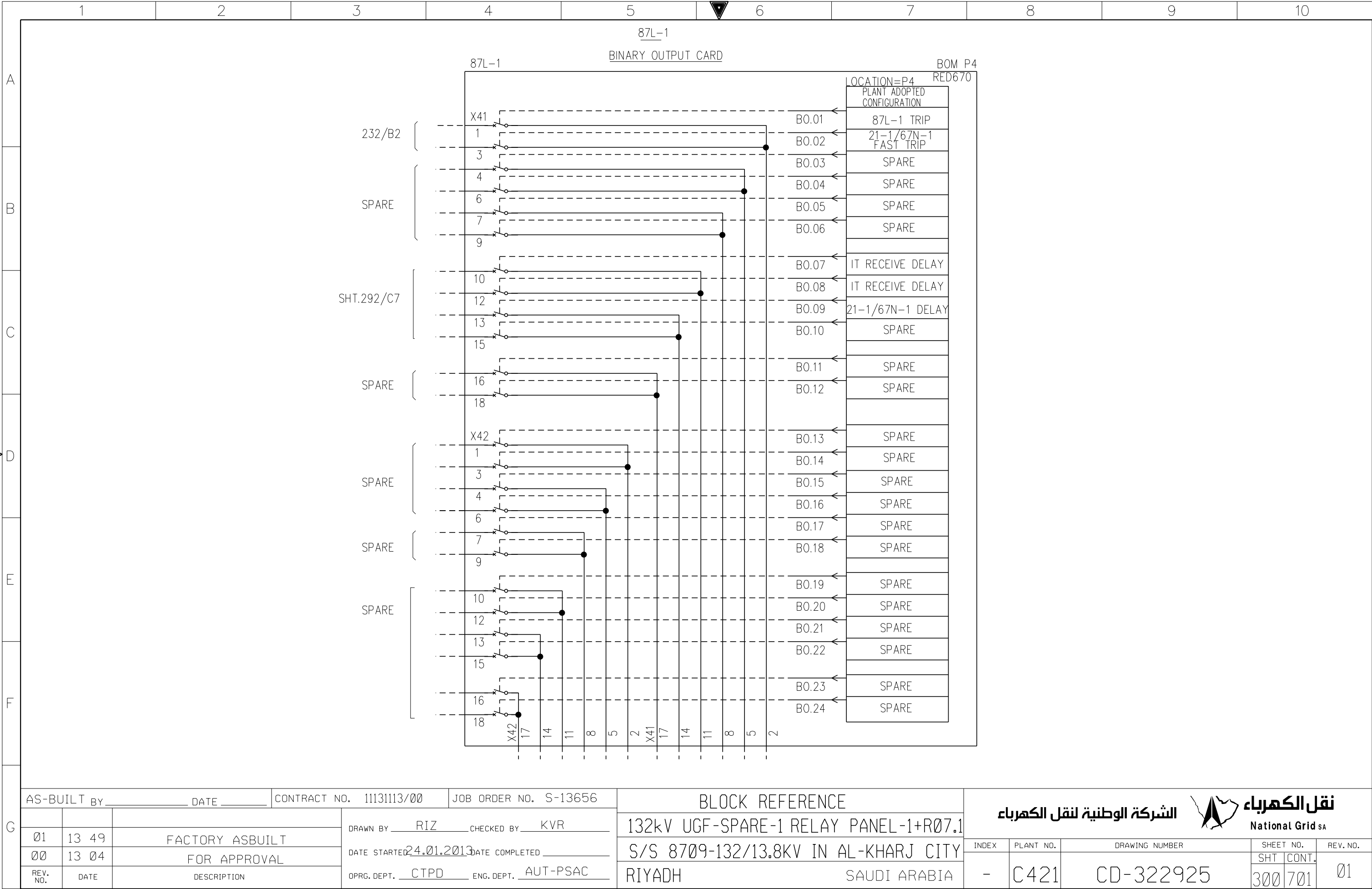
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DMS VECTOR

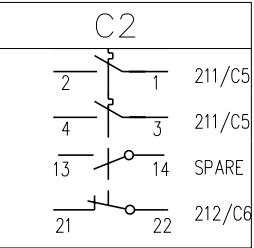
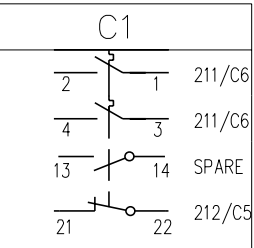
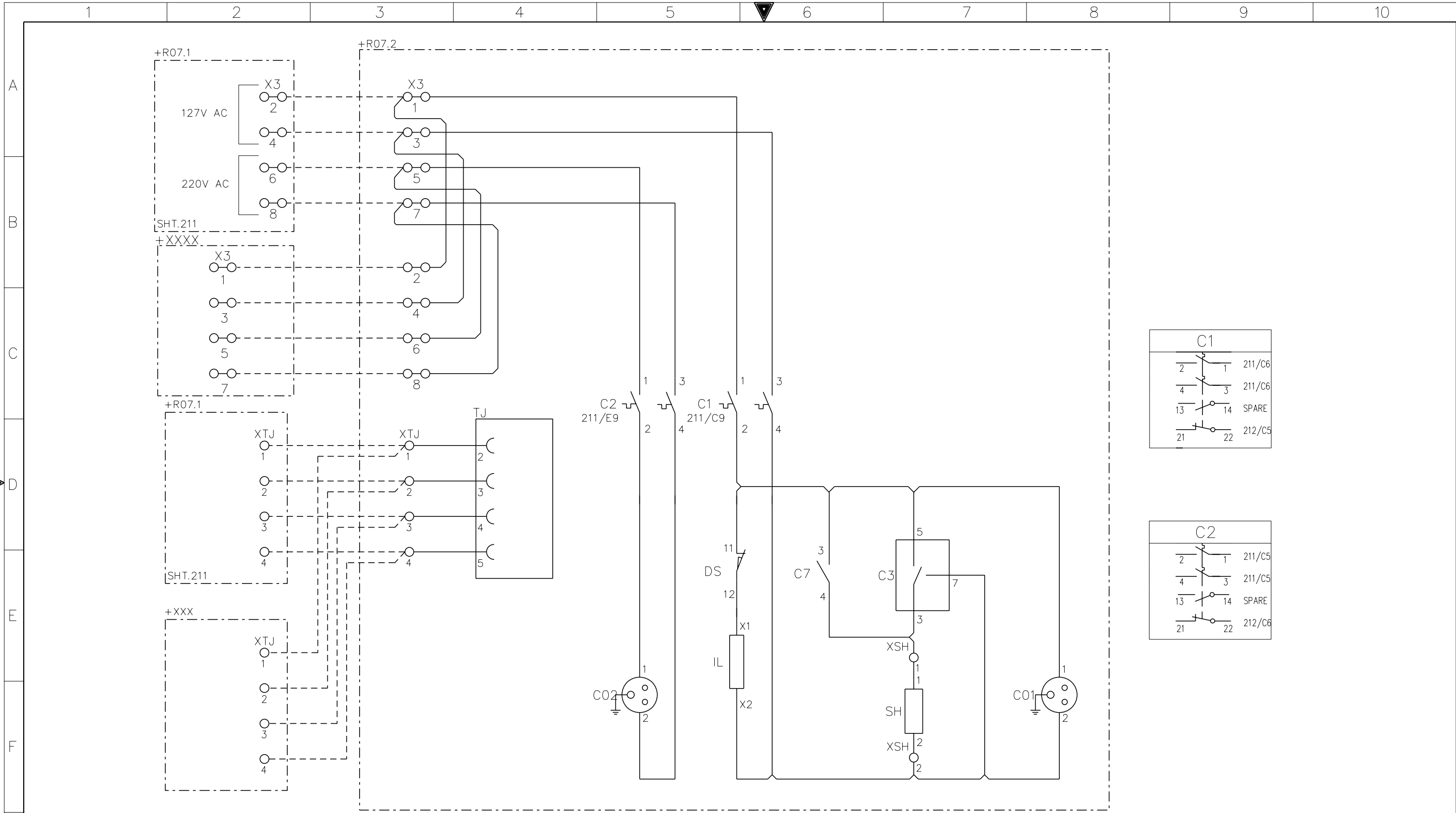
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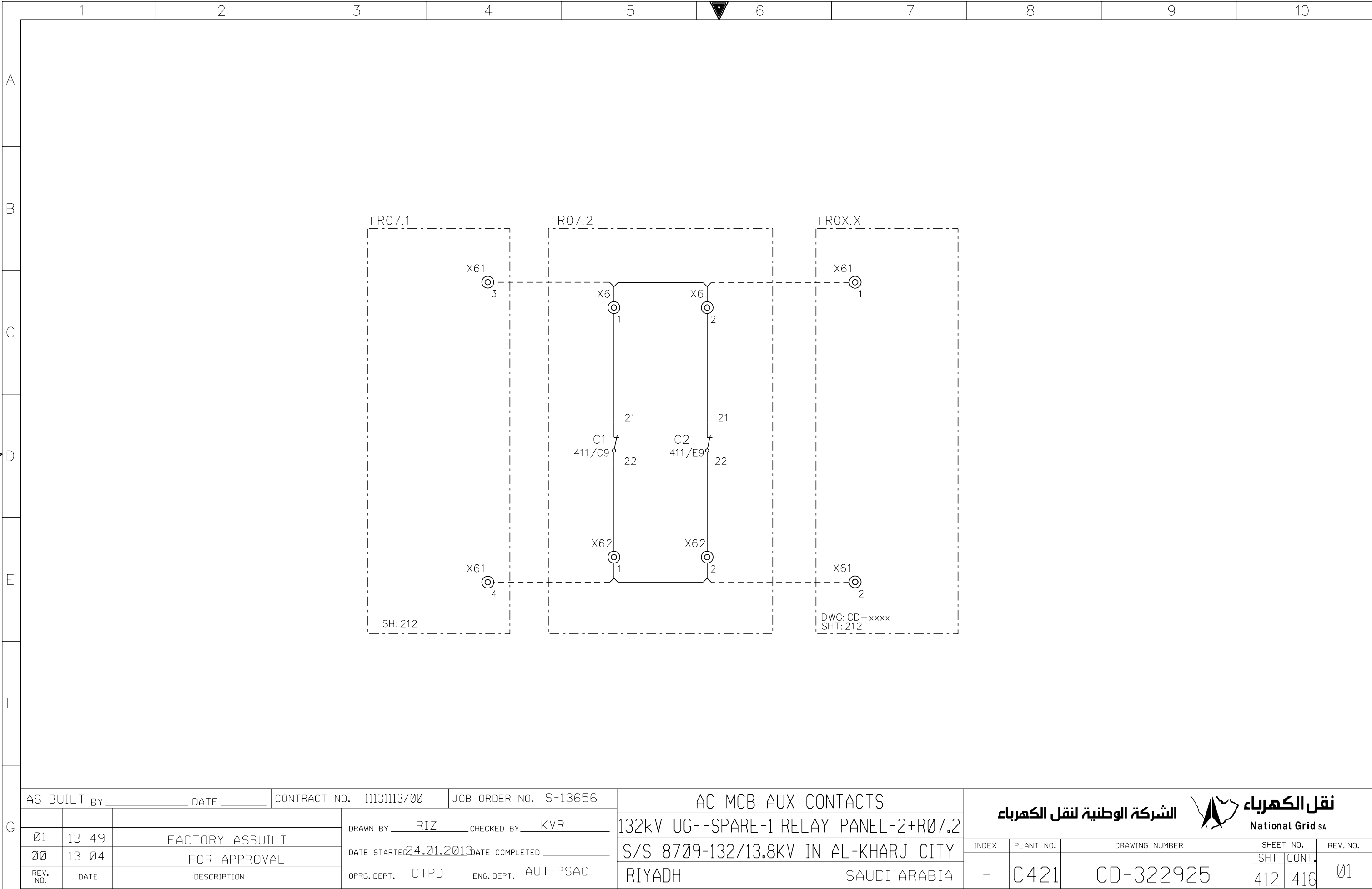


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AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		AC SUPPLY FOR ILLUMINATION &POWER SOCKET			<div><div>الشركة الوطنية لنقل الكهرباء</div><div><div><div><div></div></div><div>نقل الكهرباء</div><div>National Grid sa</div></div></div></div>						
01	13 49	FACTORY ASBUILT	DRAWN BY RIZ		CHECKED BY KVR		132kV UGF-SPARE-1 RELAY PANEL-1/2									
00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013		DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY			INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA			-	C421	CD-322925		SHT	CONT.	01
														411	412	



AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		AC MCB AUX CONTACTS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>National Grid sa</div>	
01	13 49	FACTORY ASBUILT	DRAWN BY RIZ		CHECKED BY KVR		132kV UGF-SPARE-1 RELAY PANEL-2+R07.2		INDEX	PLANT NO.
00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013		DATE COMPLETED		S/S 8709-132/13.8KV IN AL-KHARJ CITY		DRAWING NUMBER	
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		-	C421

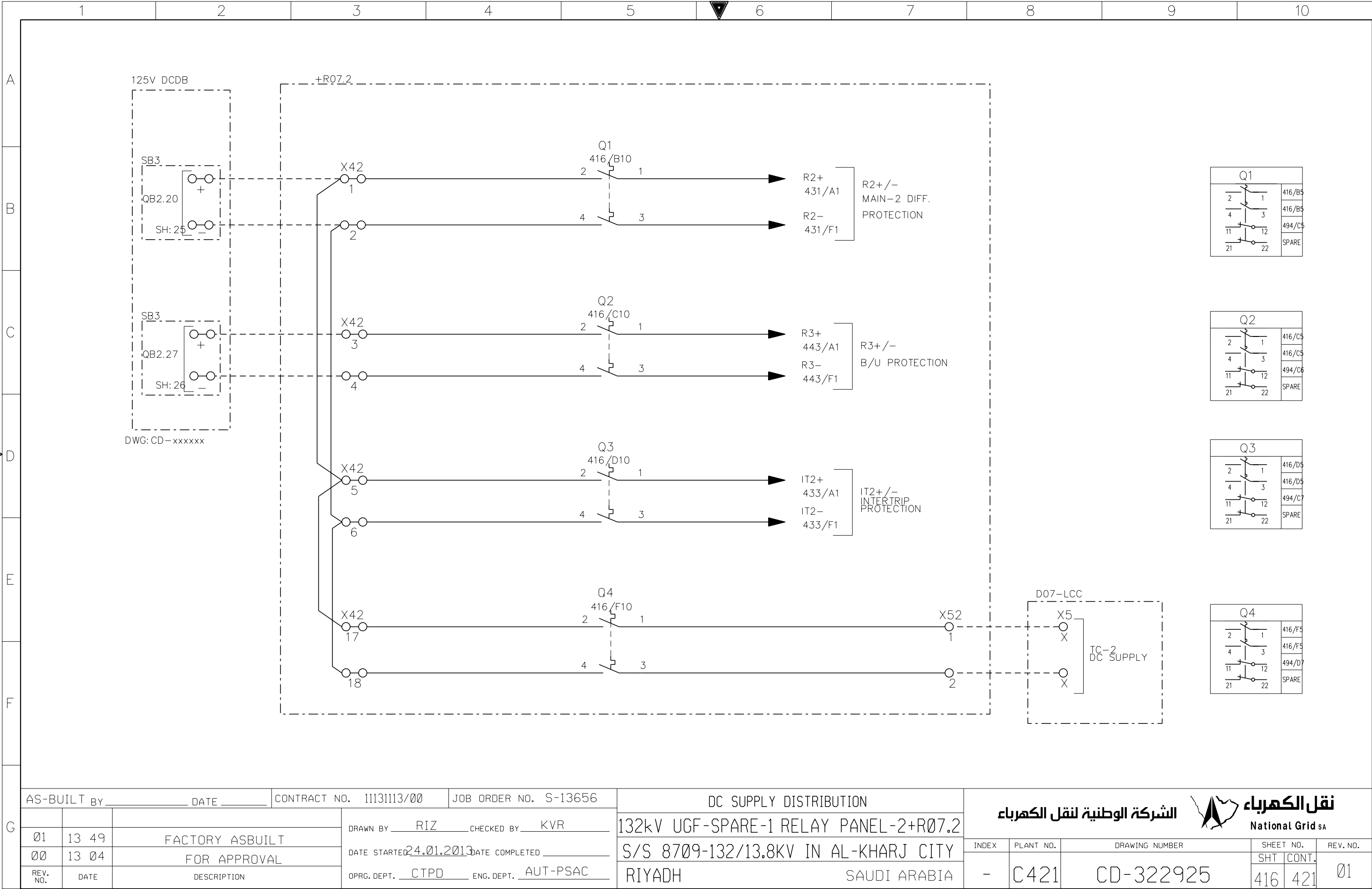
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SHT	CONT.	01	
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NG/D2-D (2012/01)

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494/C6

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416/D5

494/C7

SPARE

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416/F5

416/F5

494/D7

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AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656

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FACTORY ASBUILT

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FOR APPROVAL

REV. NO.

DATE

DESCRIPTION

DRAWN BY RIZ

CHECKED BY KVR

DATE STARTED 24.01.2013

DATE COMPLETED \_\_\_\_\_

OPRG. DEPT. CTPD

ENG. DEPT. AUT-PSAC

DC SUPPLY DISTRIBUTION

132kV UGF-SPARE-1 RELAY PANEL-2+R07.2

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء

نقل الكهرباء

National Grid sa

INDEX

PLANT NO.

DRAWING NUMBER

SHEET NO.

REV. NO.

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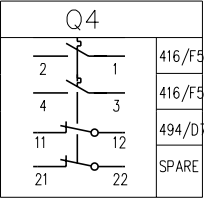
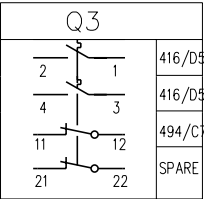
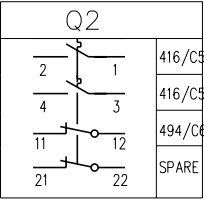
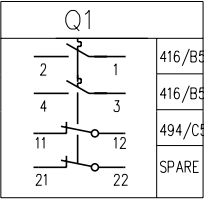
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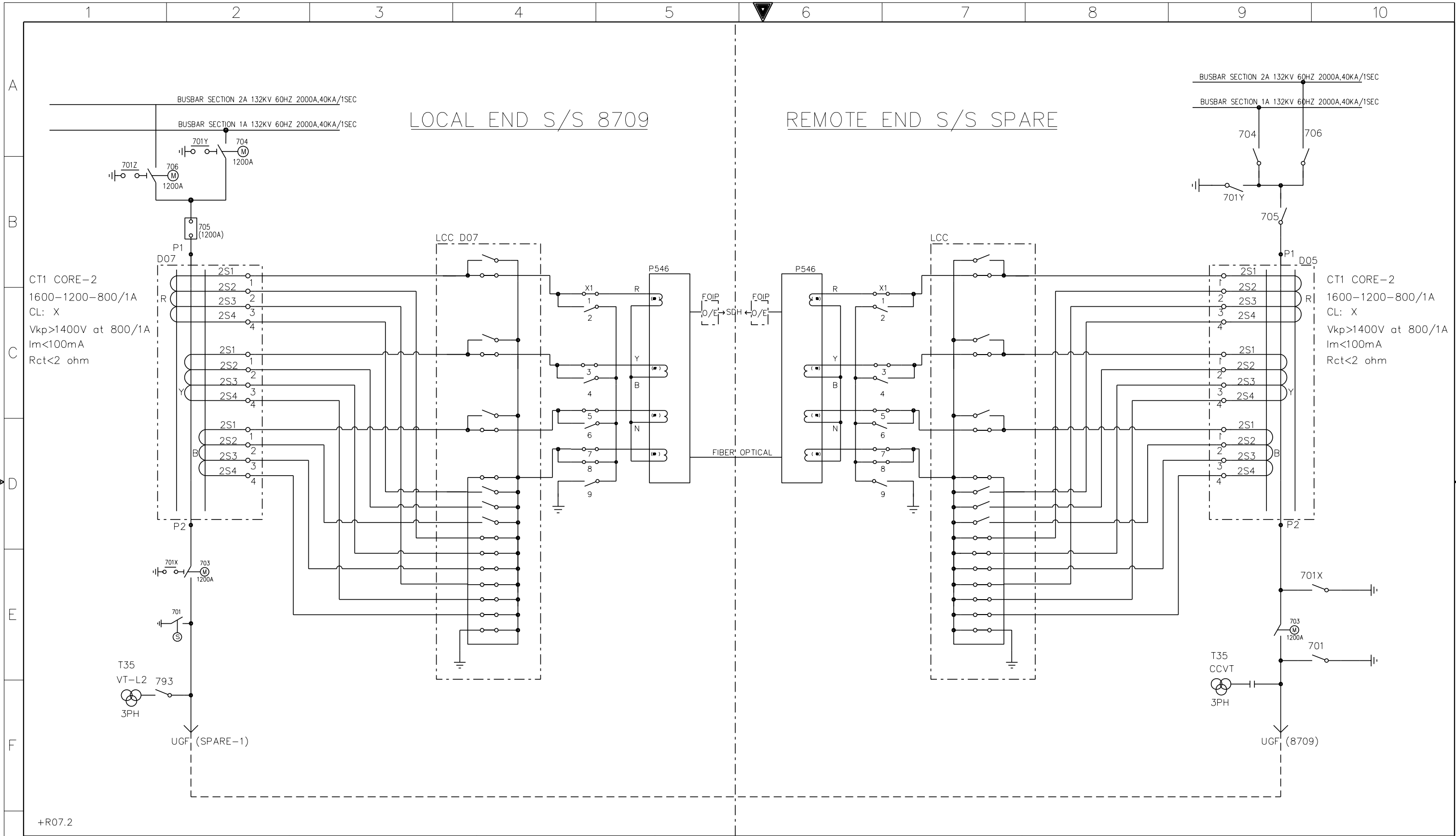


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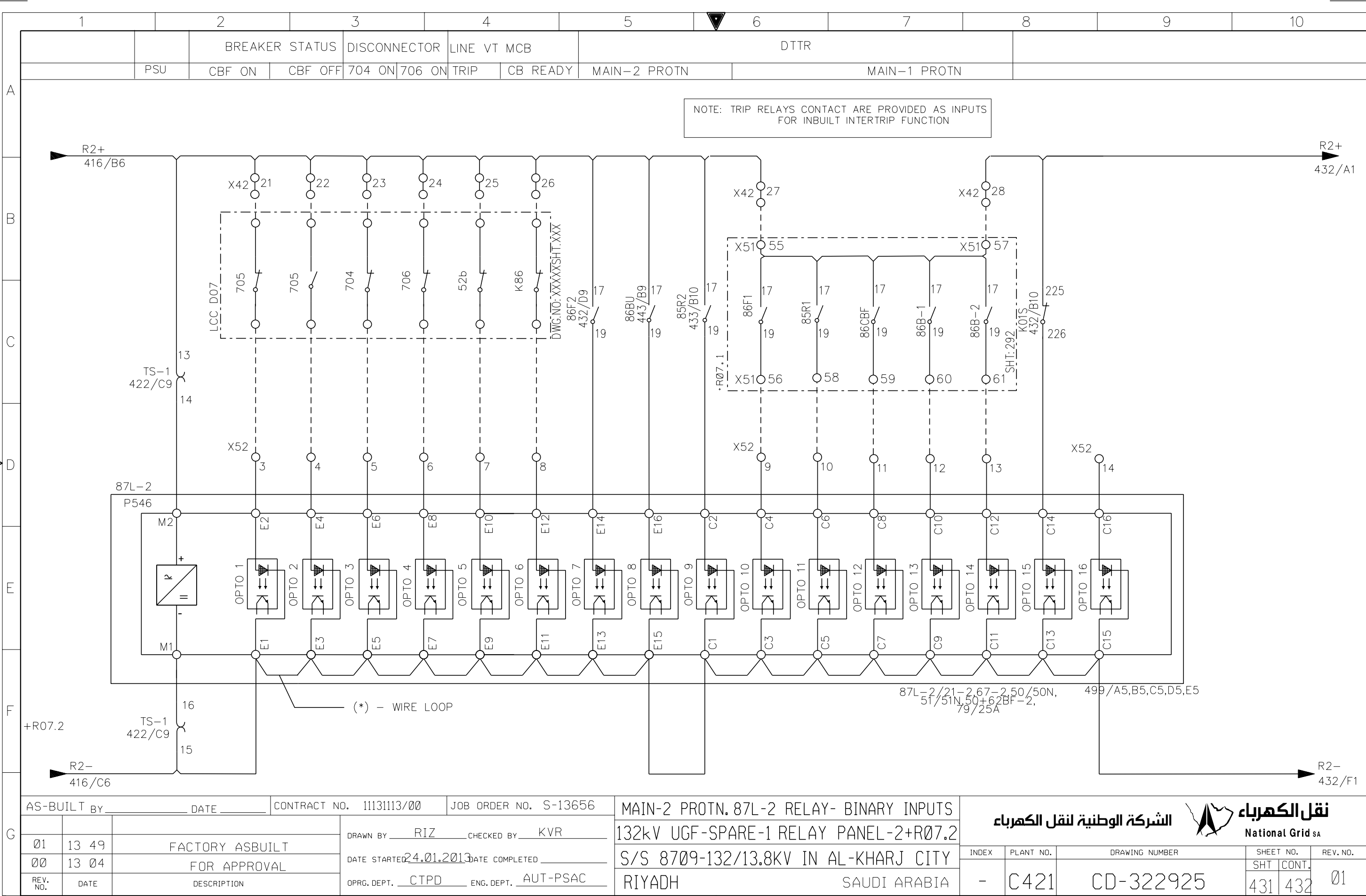
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AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_ CONTRACT NO. 11131113/00 JOB ORDER NO. S-13656

01	13 49	FACTORY ASBUILT	DRAWN BY RIZ CHECKED BY KVR
00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013 DATE COMPLETED _____
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC

COMMUNICATION CIRCUITS  
132kV UGF-SPARE-1 RELAY PANEL-2+R07.2  
S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء				نقل الكهرباء	
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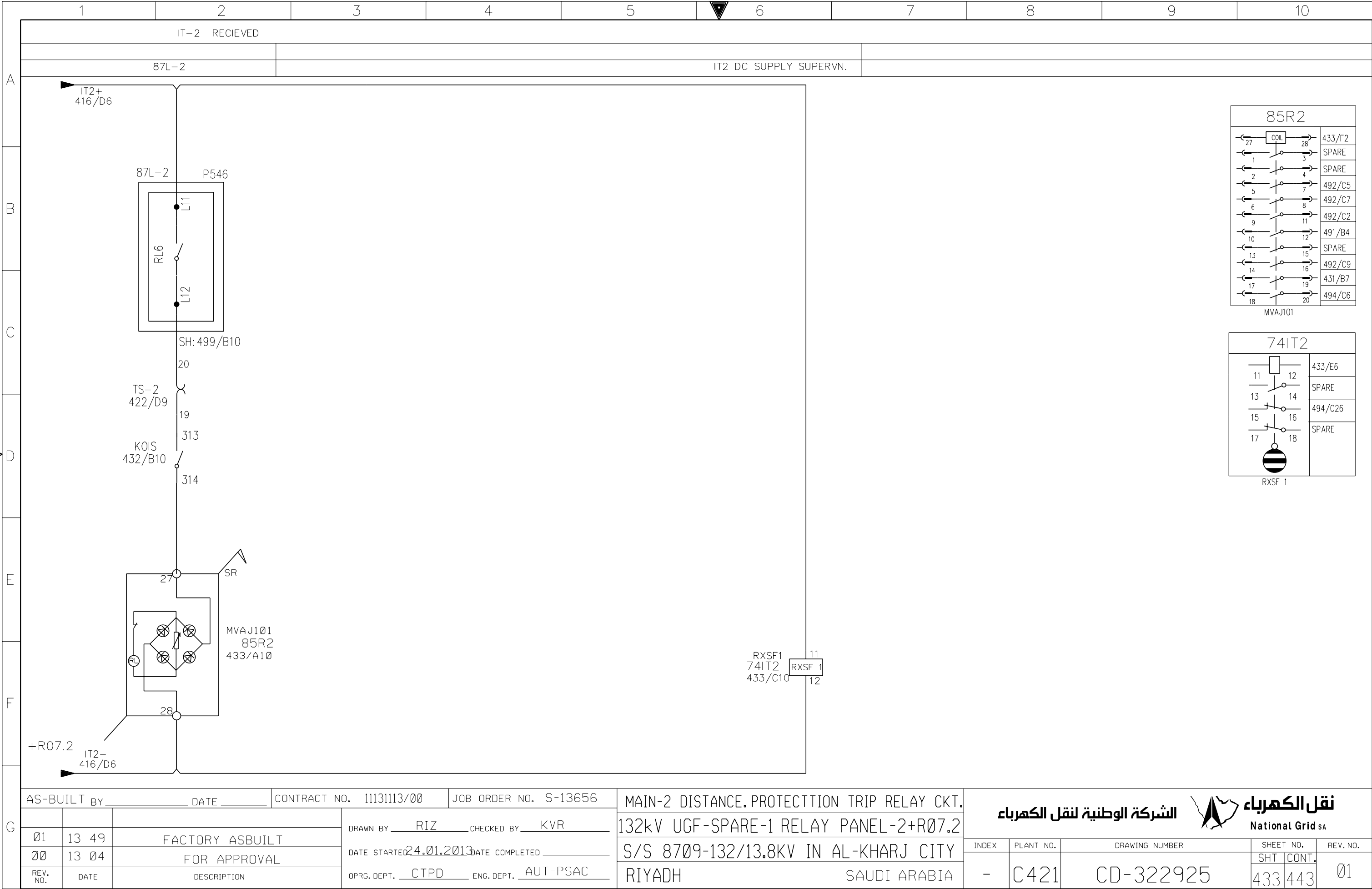
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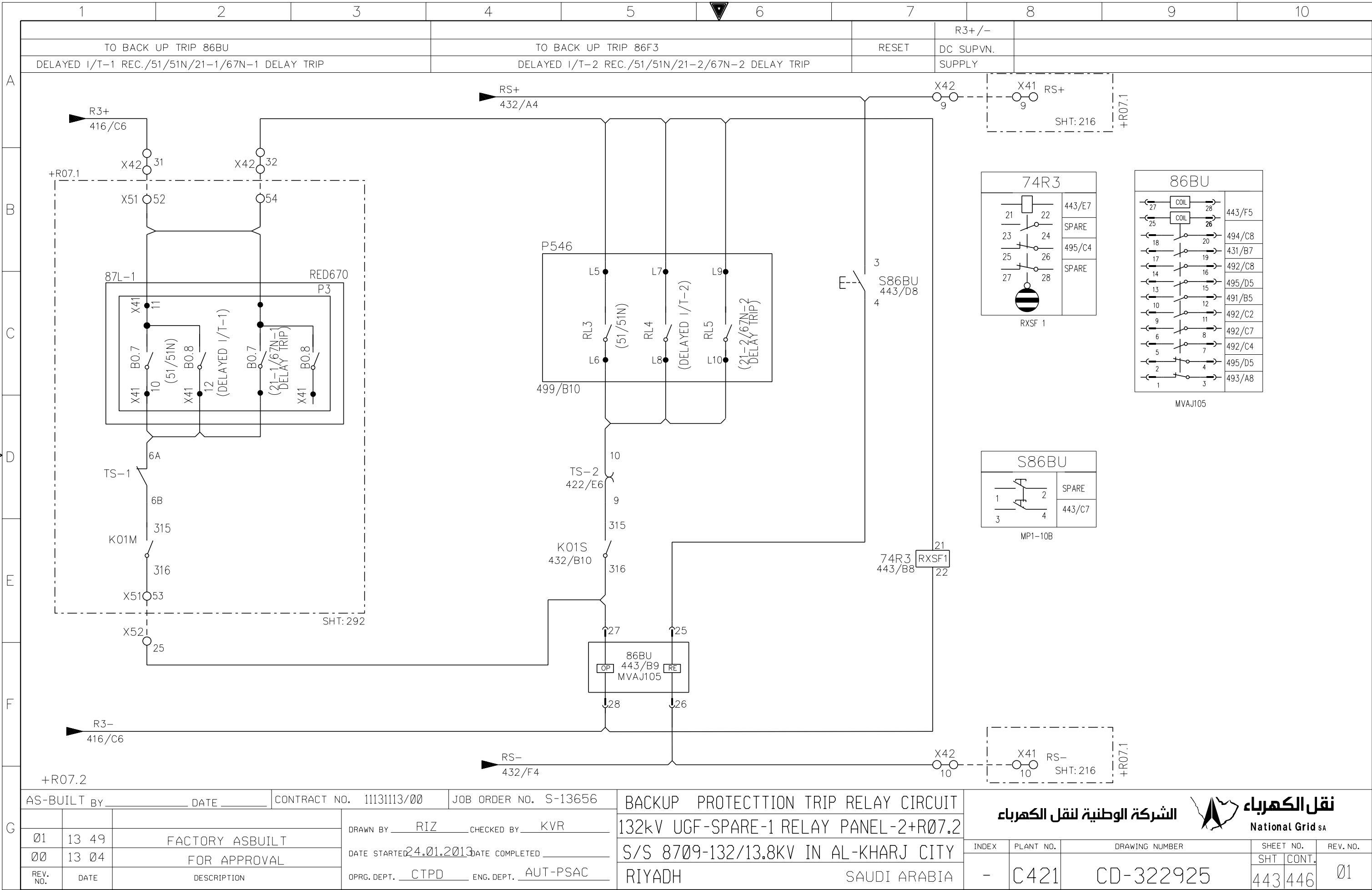


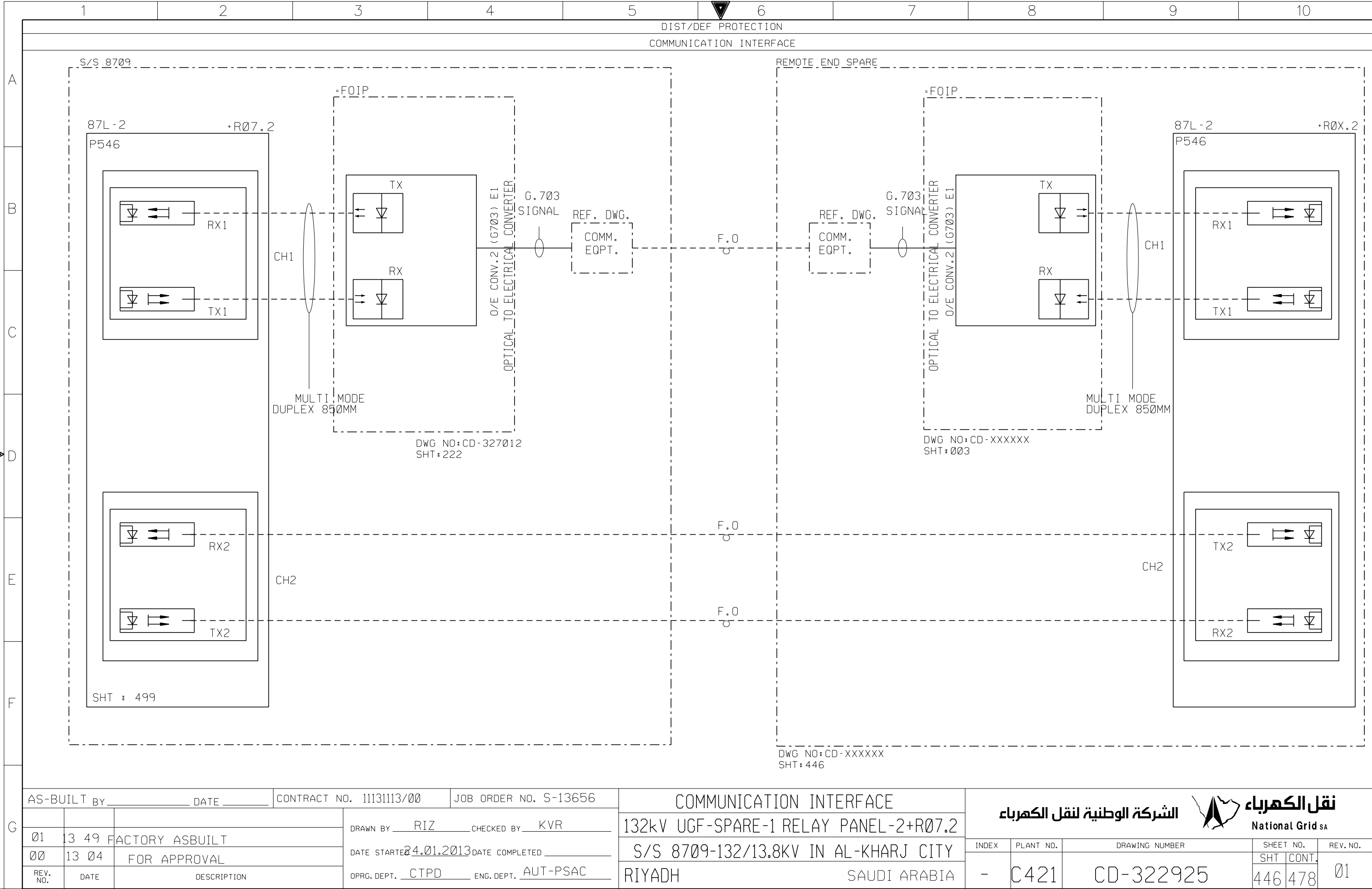


AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		MAIN-2 DISTANCE.PROTECTION TRIP RELAY CKT.	
01	13 49	FACTORY ASBUILT FOR APPROVAL	DRAWN BY RIZ		CHECKED BY KVR		132kV UGF-SPARE-1 RELAY PANEL-2+R07.2	
00	13 04		DATE STARTED 24.01.2013		DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY	
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA	

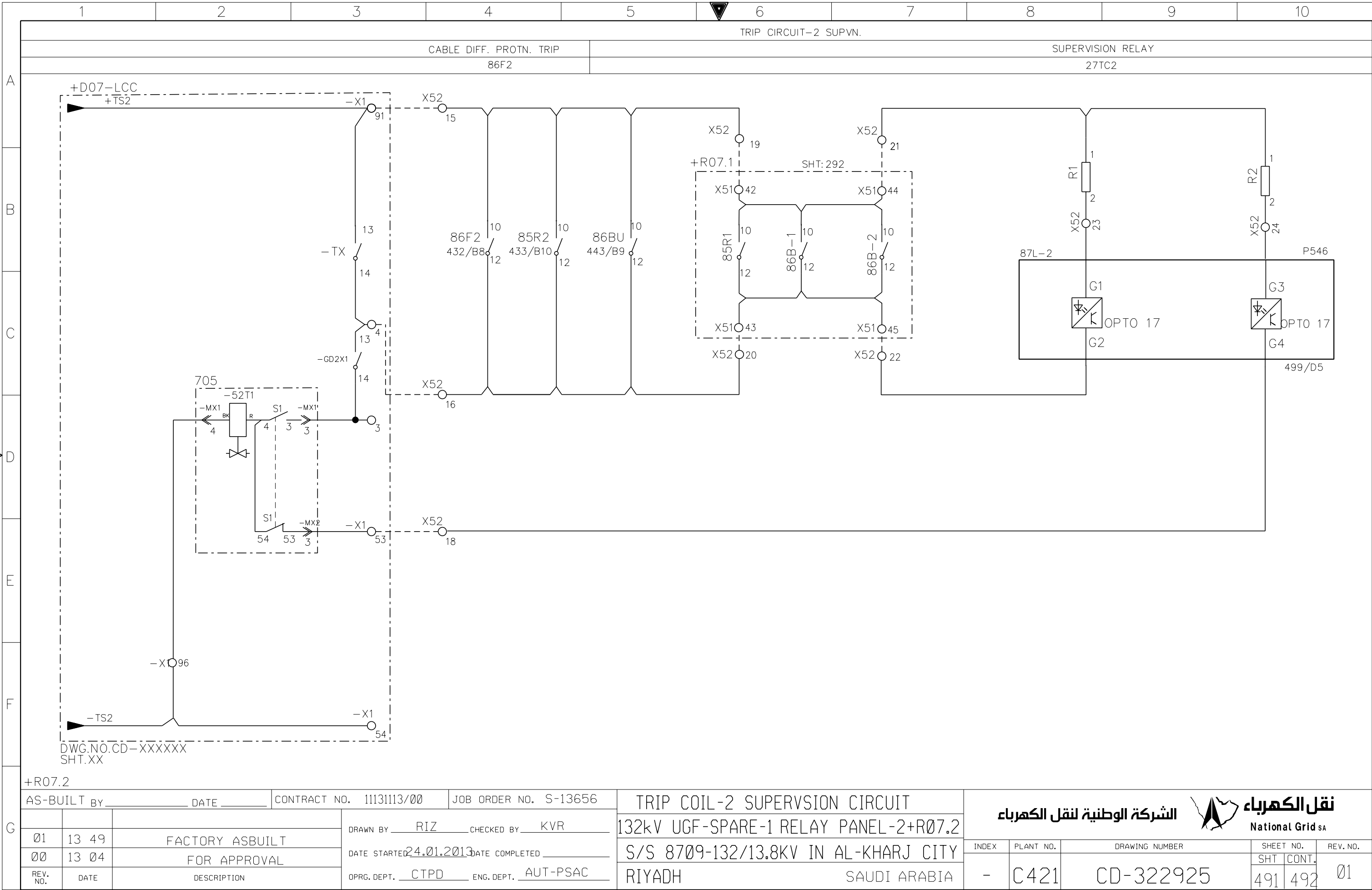
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INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
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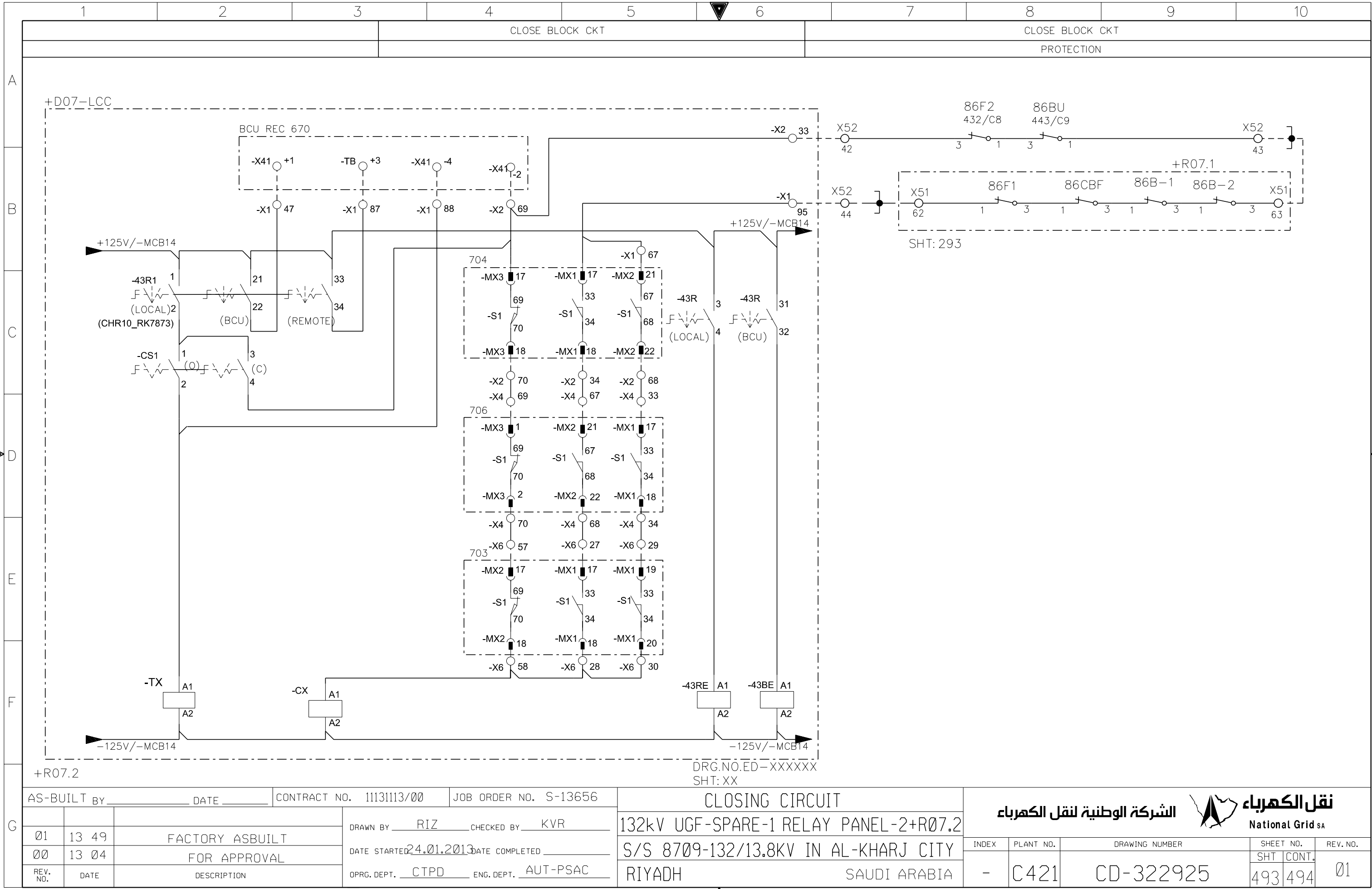




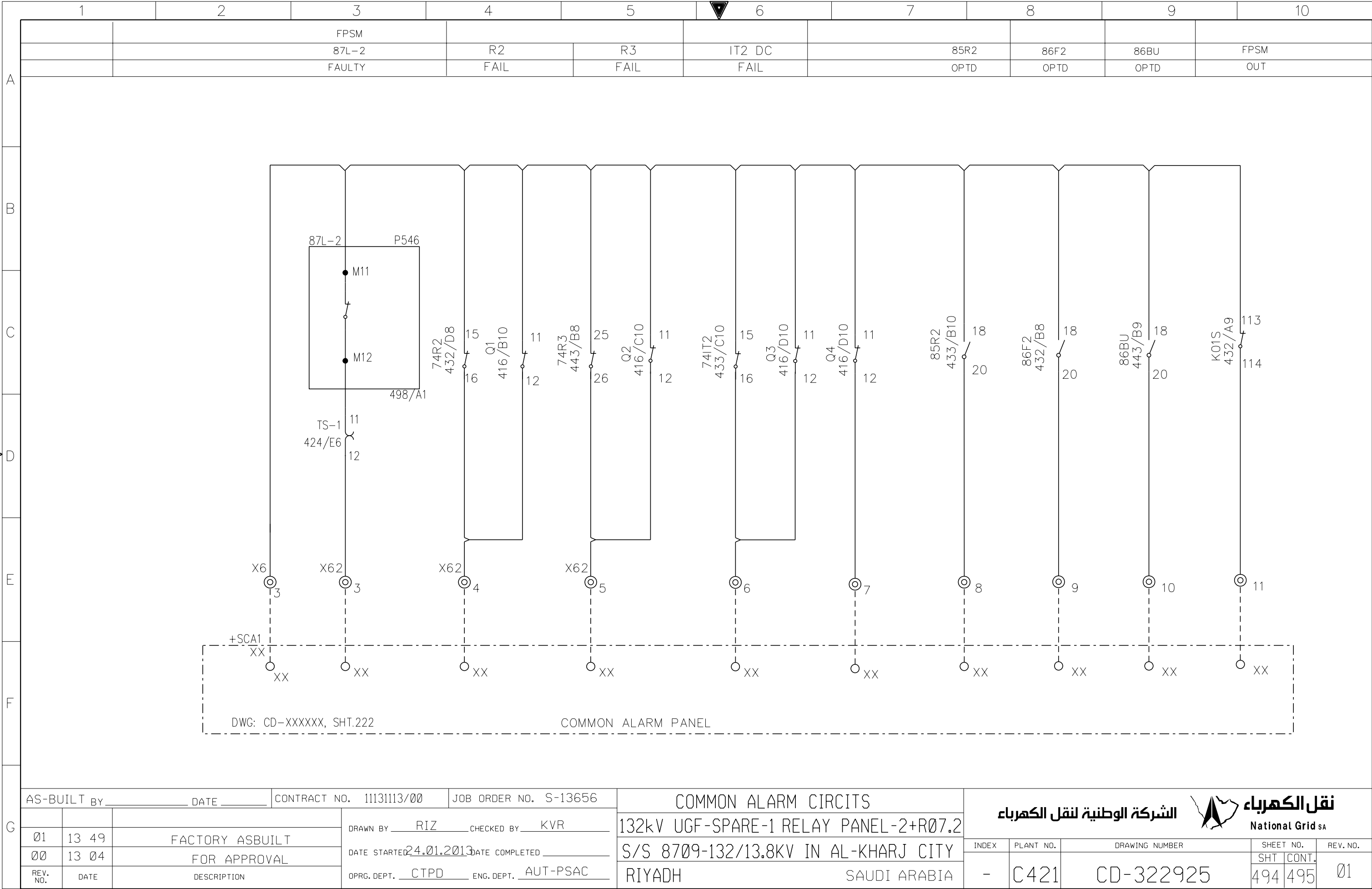
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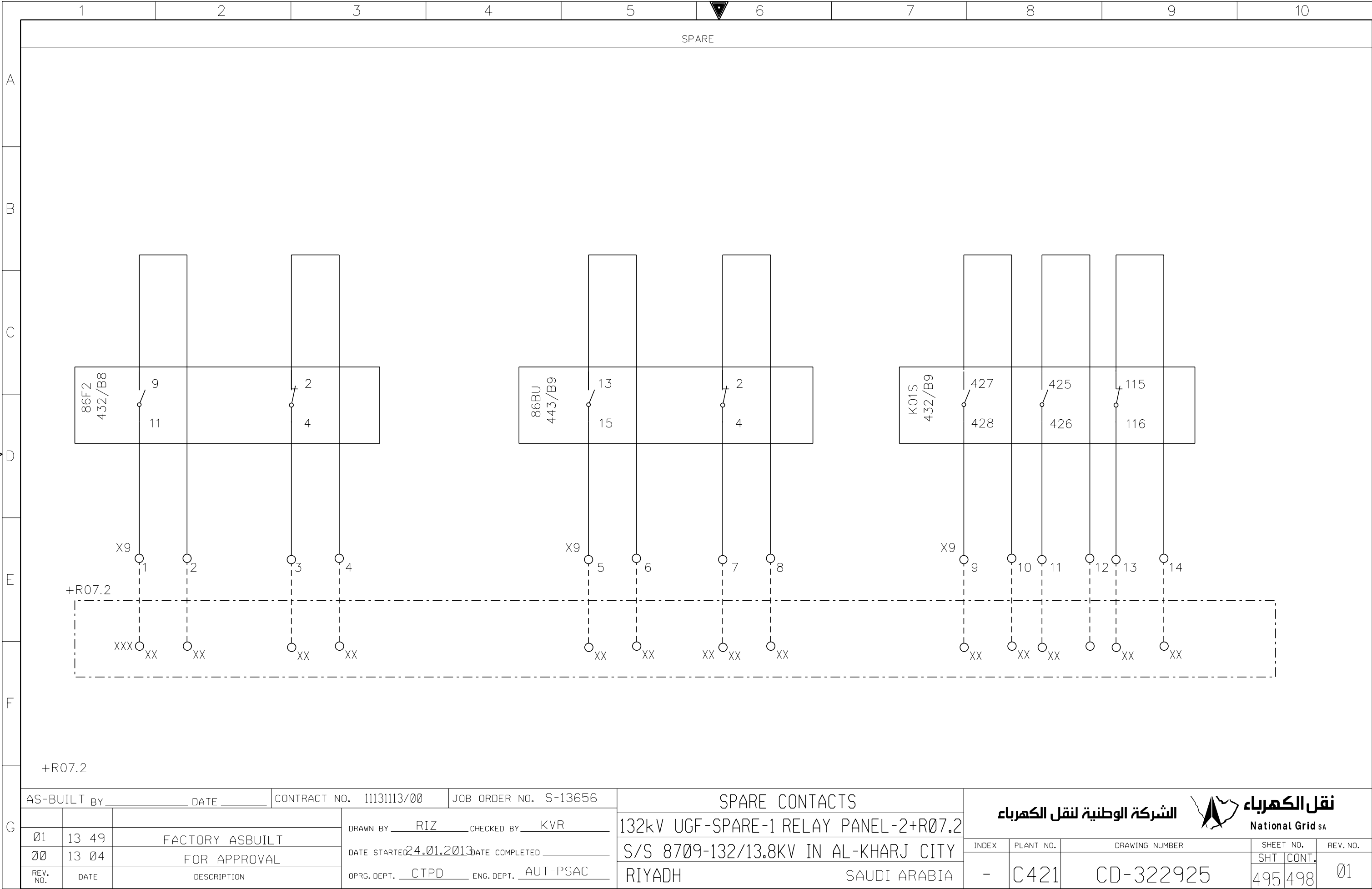




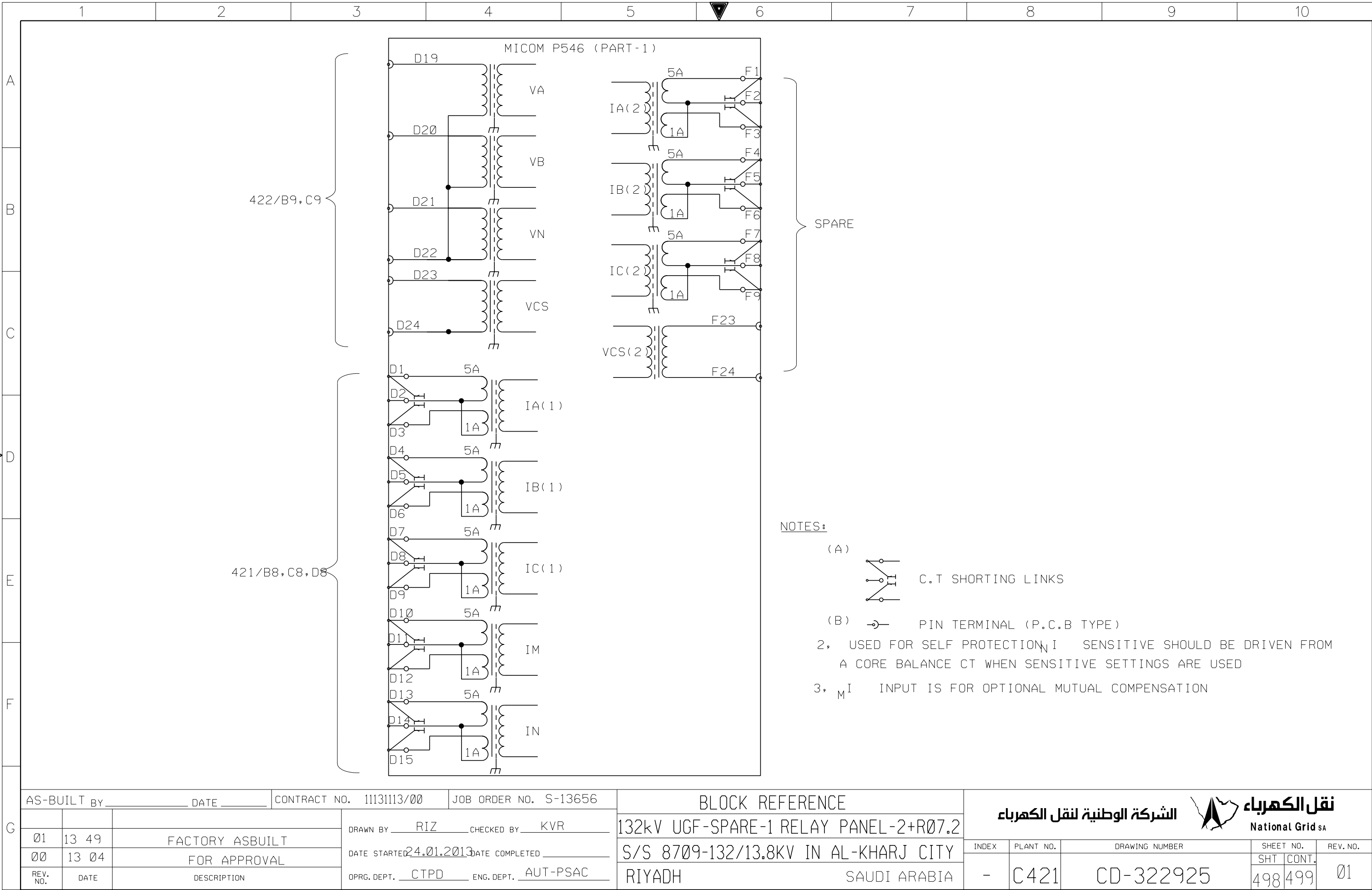
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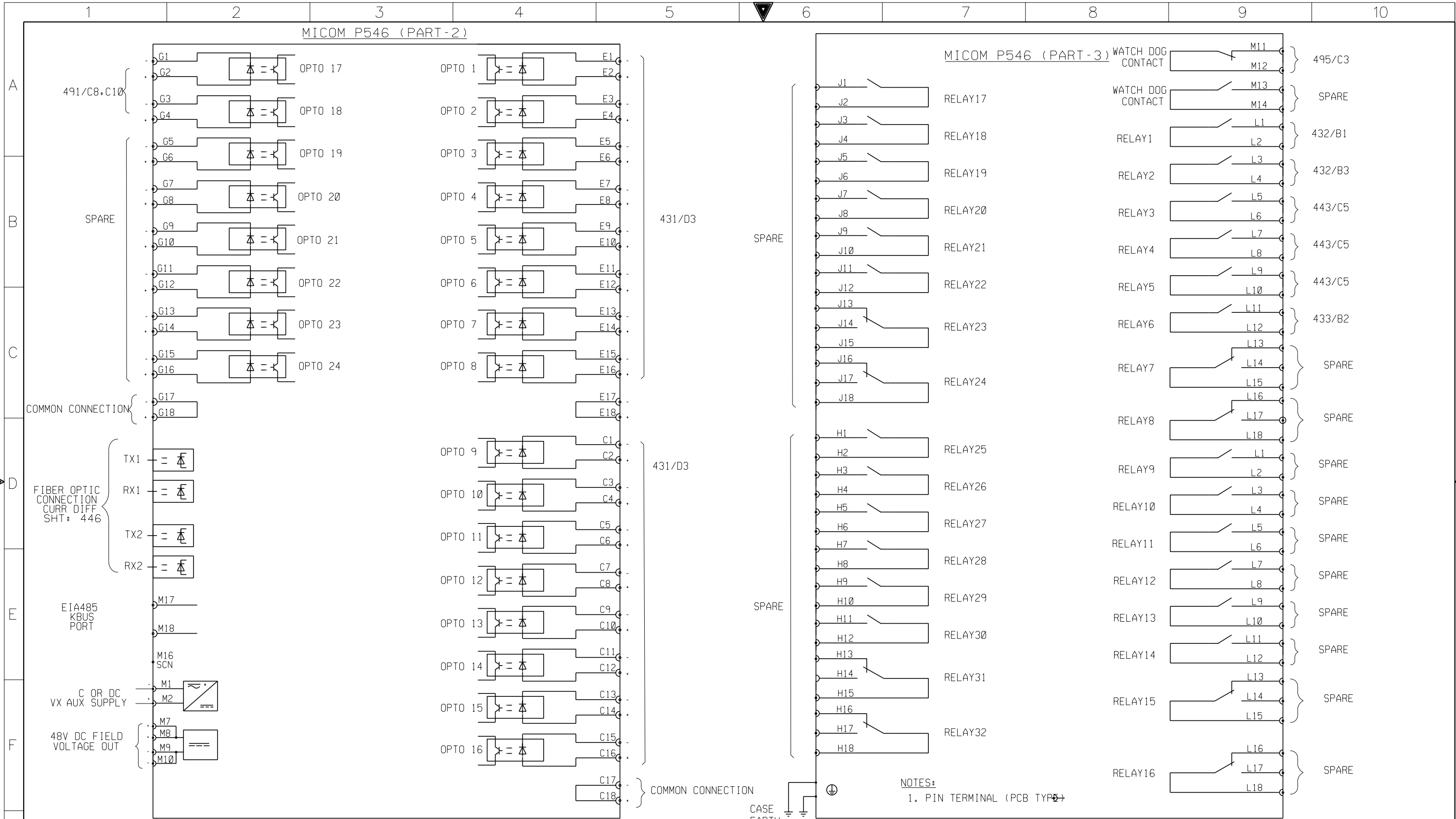


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G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		CLOSING CIRCUIT		<div>نقل الكهرباء</div> <div>الشركة الوطنية لنقل الكهرباء</div> <div>National Grid SA</div>						
				DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		132kV UGF-SPARE-1 RELAY PANEL-2+R07.2									
	01	13 49	FACTORY ASBUILT		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
	00	13 04	FOR APPROVAL		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA		-	C421	CD-322925		SHT	CONT.	01
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